This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

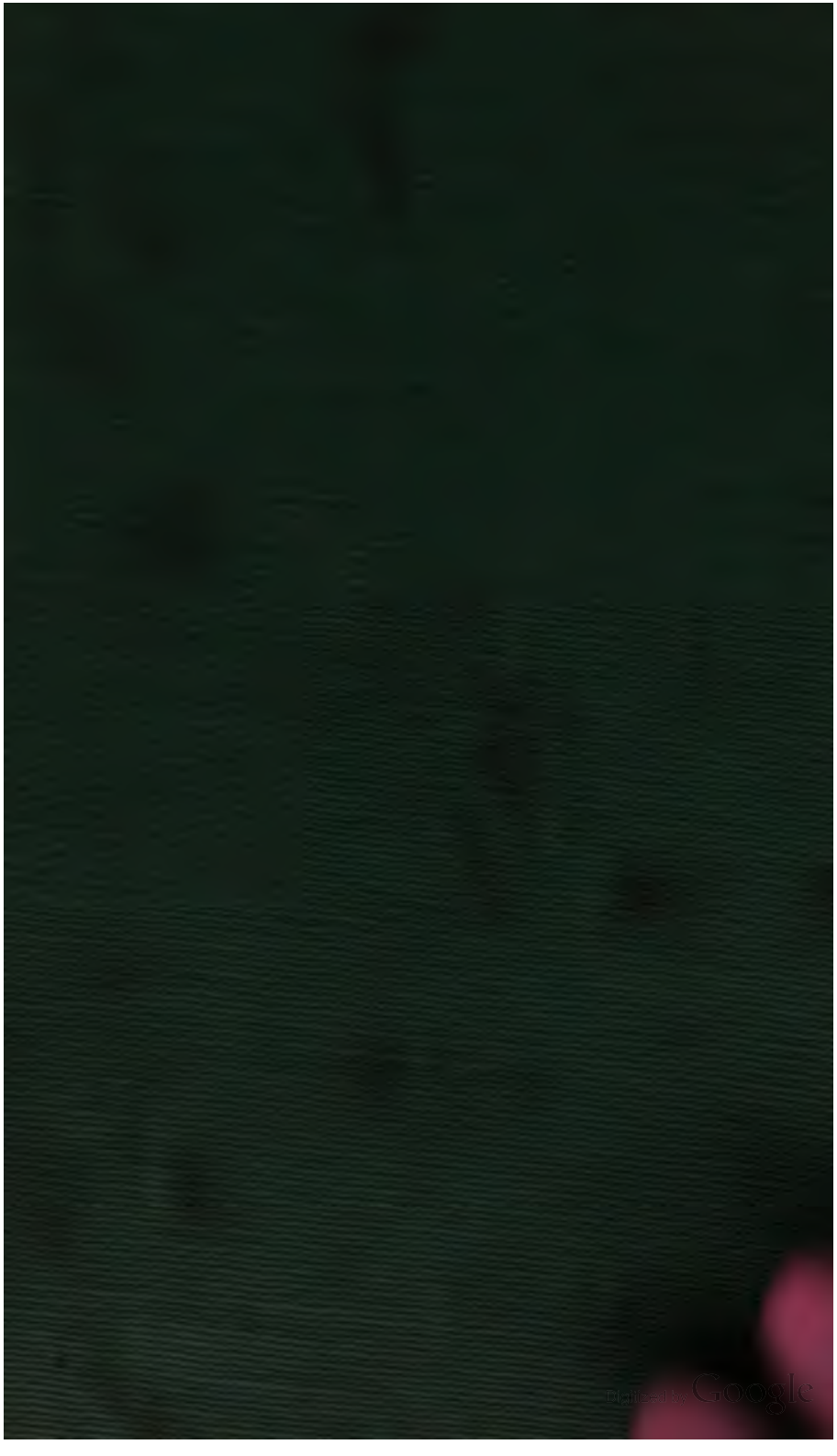
+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

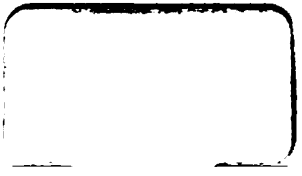
+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`


Digitized by Google



Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

Commonwealth of Pennsylvania

REPORT

OF THE

Department of Mines

OF PENNSYLVANIA

Part I---Anthracite

1913

HARRISBURG, PA.:
WM. STANLEY RAY, STATE PRINTER
1914

Digitized by Google

Digitized by Google

REPORT

OF THE

DEPARTMENT OF MINES

INTRODUCTION

The production of coal in Pennsylvania for 1913 reached the vast proportions of 264,657,020 net tons, of which 91,626,956 tons were anthracite and 173,030,064 tons were bituminous. All previous records of production were beaten and the great coal producing territory of Pennsylvania has again the distinction of producing one-half the entire output of the United States and about one-fourth the output of the world.

In the Anthracite region the number of inside employes was 128, 667, outside 46, 641, total 175,308; in the bituminous region the number of inside employes was 156,289, outside 33,635, total 189,924.

The number of fatal accidents in the anthracite region was 624, non-fatal 1,238. The number of fatal accidents in the bituminous region was 611, non-fatal 1,164.

The production of coke by operators of coal mines under the supervision of the Mine Law was 24,718,238 net tons. In addition to this, about 2,000,000 tons were produced by iron and steel establishments that do not mine coal.

Two serious disasters occurred during the year that resulted in the loss of many lives. On August 2, an explosion occurred at the Brookside Colliery of the Philadelphia and Reading Coal and Iron Company in which 20 persons were killed. This explosion has never been satisfactorily explained. Various theories have been advanced as to its cause, but there has been no satisfactory solution of it. The tragic aspect of this disaster is accentuated by the fact that while only two men were killed by the original explosion, eighteen others, including the superintendent, the foreman, nine rescuers and 7 tunnel men were killed by a second explosion caused by the tunnel men igniting the gas released by the fall of a stump pillar following the first slight explosion.

Digitized by Google

In the bituminous region, a disaster of far greater magnitude occurred April 23 at the Cincinnati mine of the Monongahela River Consolidated Coal and Coke Company, in which 97 lives were lost. A detailed account of this accident is given elsewhere in this report.

The Department in furtherance of its desire and endeavor to reduce fatalities has in recent years increased the inspection force until there are now 28 inspectors in the bituminous region and 21 in the anthracite, an increase of nine in five years and additional inspectors will be added in 1915. Every possible means of safeguarding the lives of the workmen is being adopted and it is hoped that the efforts to this end will be productive of good results in the future.

In the anthracite region there were strikes of brief duration in thirteen of the districts. Many of these were what are known as button strikes. A strike of this kind has for its cause the objection raised by some of the employes to the employment of men who do not wear the button worn by the members of the U. M. W. of A. as a distinctive badge. In some cases, the failure of even one man to wear the button has precipitated a strike. In the bituminous region there were slight labor troubles and disputes in eleven of the districts.

WORK OF THE MINE INSPECTORS

During the year they spent 3,466½ days inspecting mines; 115½ days inspecting machinery and plants; 468½ days investigating accidents; 102½ days attending inquests; 1,220 days at office work; 39½ days inspecting maps and plans; 447½ days in consultation on mining matters; 5 days in consultation on legal matters; 111½ days traveling on duty; 82 days on sick list; 119 days legal holidays; 52 days attending court; 16 days at mine fires; 146 days on Mine Foremen's Examining Boards; 3 days attending Mine Inspectors' Examination; 14 days attending Mining Congress; 26½ days attending funerals; 12 days on account of deaths in families; 2 days sickness in families; 83 days on vacation; 49 days on private business; a total of 6,581 days, or about 313 days a year for each Inspector.

IMPROVED MINING CONDITIONS

One of the interesting features connected with the mining industry at the present time, a feature that indicates the entrance of the humanitarian spirit into the practical realm of business, is the attention given by many operators to the moral, mental and physical welfare of the employes and their families. Not only have the First Aid and Rescue service and the hospital facilities been extended to a marked degree as a means of alleviating suffering in times of disaster, but the spirit of beneficence has manifested itself in various other ways.

Digitized by Google

A sincere and intelligent effort is being made by many operators to brighten and improve the living conditions in the mining communities and to lessen the monotony of the social life by healthful and agreeable diversions. Homes are being provided that are at once commodious, convenient and to a degree artistic. In many instances the houses are built of brick with up-to-date lighting and heating facilities, bath rooms and other conveniences that seem almost like luxuries. Neat and tasteful yards are connected with some of the houses. The streets and sidewalks have been improved and trees planted throughout some of the towns.

Athletic fields and playgrounds have been provided where baseball, football, tennis, croquet and other sports may be indulged in. In some of the smaller communities moving-picture shows, hotels and dairies are maintained by the operators at considerable expense. Social clubs and reading rooms afford delightful and healthful recreation for the workers and their families.

The progress of educational work has also been very marked. Substantial, well equipped school houses have been erected, capable teachers are employed and in addition to the usual curriculum, domestic science, kindergarten and sociological courses have been introduced. The departments for these new adjuncts are thoroughly equipped and in charge of expert instructors.

Mining classes for men who desire to take the examination for positions as mine foremen and fire bosses, classes in English for foreign speaking employes and classes in elementary branches for boys and men, are held two or three evenings a week. These institutions are very helpful to those who must work during the day.

Hospitals equipped with every modern device and necessity for quick, effective service have been built and are beautifully clean and sanitary, heated and ventilated perfectly and presided over by selected corps of physicians and nurses.

In short, the time is coming when the occupation of the coal miner will be relieved not only of many of the dangers that beset it, but also of many of the disagreeable and repellant features, and his home and social surroundings will be characterized by a sense of comfort, cheerfulness and attractiveness that have been unknown to him in the past.

FIRST AID CORPS AND RESCUE CORPS

The practical beneficence of First Aid and Rescue work is being demonstrated daily in the mining communities of the State. Although of recent origin and purely humanitarian in character, this work has nevertheless firmly established itself as a most useful adjunct to the well recognized and universally applied preventive and remedial measures in force in the mining industry.

The primary object of First Aid and Rescue work is to render quick service in times of emergency, and very nobly and effectively is it fulfilling its mission.

It is difficult to estimate the extent of the relief afforded by the First Aid Corps, or to tell how many lives have been saved by their

Digitized by Google

quickly-responsive and intelligently directed efforts; but every day they relieve victims of disaster of pain and suffering, and sustain and protect them until the hospital is reached or the doctor arrives.

This work had its inception in England in 1880, and about the same time efforts were made to establish it in Germany, France, Belgium and Austria.

Its introduction into Pennsylvania was made in 1900 in the Anthracite region. Although at first regarded with indifference or disapprobation, it gradually demonstrated its utility and in a short time won universal favor in that region with the result that in recent years many hundreds of teams have been organized and thousands of men have been instructed in the work.

In the bituminous region the benefits to be derived from well trained First Aid Corps were not recognized until within the last three or four years, but the work once having been adopted has made tremendous progress. Some of the most expert and most thoroughly equipped corps in the world are now found at the bituminous mines.

This work is having another and a very important influence not expected when first instituted. The thorough and careful training in the methods of treating various injuries and conditions of helplessness and the fact that dangers are visualized and brought forcibly to the attention of the members of the teams are impressing upon them the necessity for more caution and more complete compliance with the rules of safety in the performance of their dangerous occupation.

This subject has been treated of in detail in the Department reports for 1906 and 1910; but on account of its importance and its tremendous growth in recent years the Department has collected statistics as to the number of First Aid teams in the State, and also the number of Rescue Corps.

In the anthracite region there are now approximately 454 First Aid teams, comprising 2,556 men, and the number instructed in the work up to the present time is 5,229. The number of Rescue Corps is 97, comprising 696 men, and in this work 2,521 men have received instruction. In the bituminous region there are 362 First Aid teams, comprising 1,779 men, and the number instructed in the work up to the present time is 2,156. The number of Rescue Corps is 52, comprising 282 men, and in this work 594 men have received instruction.

The reports received regarding this work, while incomplete, show that in the anthracite region during 1913, there were 20 lives saved by the prompt treatment of First Aid teams and 3 by the Rescue Corps, who used the pulmotor to resuscitate victims of fire-damp. In the bituminous region 27 lives were saved by the First Aid teams.

HOSPITAL AID TO MINERS

The great increase in the hospital facilities available for the miners and their families in times of sickness and injury calls for special mention.

It is true that for many years hospitals in the mining region have opened their doors freely and at little cost to the miners, but in

recent years, owing to the increase in the number of mine employes and the general awakening of the helpful spirit, greater consideration has been given to their needs and many such institutions have been established largely for their benefit. These hospitals are maintained by State aid, contributions by the operators and in some cases by contributions from the miners as individuals or from their organizations.

The patients in many cases pay a small daily charge while inmates, if able to do so. If not, the operators frequently bear the expense. In fact, many operators make it a rule to pay for the care of their workmen, the amount being generally a per diem charge of $1.00 or $1.25.

Pennsylvania, being the greatest of mining states, has given more attention to this matter than any of the other states. In fact the efforts of the mine operator, the miner and the legislator have all been directed to the procuring of better, more extensive and freer hospital facilities. In every mining county of the State there are now institutions of this kind, equipped and managed in the most complete and scientific manner.

The Department has recently collected statistics on this subject which, while incomplete, demonstrate in a convincing way the extent to which this work is being carried on. In the anthracite region there are 16 hospitals at which about 7,000 miners and 5,000 members of their families were treated during 1913. In the bituminous region there are 48 hospitals at which about 5,000 miners and 1,000 members of their families were treated.

In addition to these patients there were many others designated as out-patients, who received medicine and treatment, but were not inmates of the hospitals.

EXAMINATION OF MINE INSPECTORS AND MINE FOREMEN

The charge has frequently been made of late that the Boards of Examiners who examine applicants for the office of Mine Inspector in the anthracite region maintain a standard so high that it is impossible for the ordinary miner to pass successfully. It is a fact that the standard is high for the ordinary miner, as the records show that only one miner working at the face ever passed the examination. He is a member of the inspection force today. This condition is due, however, to the fact that the miners have never made the proper effort to prepare themselves for the severe test. It is also a fact that but very few of them enter the examination.

The necessity for thoroughly equipped and properly qualified men for the important position of Inspector has long been recognized in Great Britain and continental Europe, where the examinations are much more rigid and the theoretical standards much higher than in this country. Undoubtedly the standard should be raised still higher in Pennsylvania until every Inspector, in addition to his practical knowledge of mining and of mine gases as found in coal mines, should also possess knowledge of mining engineering, electricity and chemistry. Many of the present Inspectors are familiar with these subjects and ultimately all of them will be.

Digitized by Google

ining to test the explosibility of anthracite dust, and coal was sent from nearly all the anthracite counties for that purpose. The tests made, however, failed to explode the dust.

Recent reports from South Wales having disclosed the fact that anthracite dust in the mines of that country had been ignited in the presence of gas and also at times when no gas was present, the question of the explosibility of Pennsylvania anthracite dust was again raised by some persons in this State, and in order to settle the question definitely, tests were made by the engineer in charge of the United States Testing Station in the presence of several mine operators. Seventeen of the tests were made in the experimental mine steel gallery, six in the mine entries, and nine in the dust gallery at the Pittsburgh Testing Station.

It seemed like tempting fate to make a test in the experimental mine at Bruceton, as it is a bituminous mine, but, in spite of the objections raised by the anthracite operators, the tests were subsequently made, without the knowledge of the Department of Mines or the operators. The engineers who insisted upon making them, of course, did not appreciate what it would mean to the anthracite industry had they succeeded in igniting anthracite dust even though it were done in a bituminous mine. Fortunately no explosions resulted from the tests. In fact not only did the dust not prove explosive without firedamp being present, but even in an explosive mixture it did not prove inflammable. It tended rather to lessen the length of the flame of an explosive firedamp mixture.

The Chief of the Department of Mines, as well as many of the State inspectors and operators of the anthracite region, felt positive, from results of many years' experience, that the anthracite dust was not inflammable when firedamp was not present, but they could not assert positively that it would not extend the flame of a firedamp explosion. The experiments proved that it would not.

It will be readily understood, however, that the tests were of tremendous interest to all persons concerned in mining anthracite, as a most serious problem would have presented itself had the dust, which accumulates in large quantities, proved inflammable.

Those present at the culminating experiments were, Messrs. G. B. Hadesty, Division Superintendent, Joseph A. Garner and Mr. Price, representing the Philadelphia and Reading Coal and Iron Company; W. G. Whildin, General Superintendent of the Lehigh Coal and Navigation Company; W. S. Norton, Chief Engineer of the Alden Coal Company; H. R. Owens of the Lehigh and Wilkes-Barre Coal Company; W. Gordon Thomas of the Wilkes-Barre Colliery Company; Charles Enzian, the representative of the Bureau of Mines, Wilkes-Barre; George S. Rice, Chief Mining Engineer, and Spencer P. Howell, Explosives Engineer of the Bureau, both of Pittsburgh; James E. Roderick, Chief of the Pennsylvania Department of Mines, Harrisburg; Inspectors M. J. Brennan, Pottsville, A. B. Lamb, Shenandoah, S. J. Jennings, Pittston and D. T. Davis, Wilkes-Barre.

The following is a report of the tests as made by the National Bureau of Mines:

Digitized by Google

REPORT ON ANTHRACITE DUST INFLAMMABILITY TESTS

During March and April, 1914, inflammability tests on Wyoming region anthracite dust were made in the experimental mine steel gallery (g47-63), in the mine entries (EM 5& 96-100), and in the dust gallery at the Pittsburgh Station (g8415-8520 and 8500-8502).

In the first series black powder shots were fired into anthracite dust zones, in some tests in the presence of small percentages of gas, and also into dustless zones to obtain comparative results.

Digitized by Google

TABLE A—Ignition by Blownout Shots of Black Powder

(A-1) Blownout Shots—(Bruceton Gallery)

Test number	Ignition charge	Air current direction	Length of dust zone	Amount of dust	Distance through which flame was observed		Remarks
					Windows	Doors	
			Ft.		Ft.	Ft.	
47	4 lbs. FFF—3 lbs. clay, ...	With shot, ...	93	None	30	37	
48	4 lbs. FFF—1 lb. clay, ...	With shot, ...	93	None	3	at 37	
56	4 lbs. FFF—1½ lbs. clay, ...	With shot, ...	93	None	30	None	
57	4 lbs. FFF—3 lbs. clay, ...	With shot, ...	93	93	10	None	
55	4 lbs. FFF—1½ lbs. clay, ...	With shot, ...	93	186	30 ft. then delayed to 63 ft.	None	Delayed flame from 30′ to 63′. This flame had quite a red appearance as of burning dust.
61	4 lbs. FFF—1 lb. clay, ...	With shot, ...	93	186	30 ft. then delayed to 63 feet.	70	Delayed flame was red. Looked as though dust was burning.
62	4 lbs. FFF—1 lb. clay, ...	With shot, ...	93	186	37 ft. then delayed 17′ to 63′.	Delayed 17′ to 70′	
63	2 lbs. FFF—1 lb. clay, ...	With shot, ...	93	186	3	None	
50	2½ lbs. FFF—2½ lbs. clay, ...	Against shot, ...	119	244	None	None	East end closed by canvas.
54	4 lbs. FFF—1 lb. clay, ...	With shot, ...	93	186 .70% gas.	37′ flame observed twice at 20′ and 37′.	57′	A delayed flame was seen at 30′ and 37′ after the first flame from shot.
51	2½ lbs. FFF—3 lbs. clay, ...	Against shot, ...	119	244 .34% gas.	None	None	
52	2½ lbs. FFF—3 lbs. clay, ...	Against shot, ...	119	244 .46% gas.	None	33′ delayed flame	
53	4 lbs. FFF—1 lb. clay, ...	Against shot, ...	119	176 .60% gas.	None	None	

The average length of flame from a blownout shot of 4 lbs. FFF black powder ranged from 30-37 feet as seen either in doors or windows. In g57 with one pound of dust per foot, the flame was seen for only 10 feet. With 2 lbs. of dust per foot the length of the first flash of flame was about the same as that observed in the blank tests, but a slowly moving red flame was later seen to advance from point 37-63 feet. This extension of flame was probably due to burning anthracite dust but it is significant that in no case was the flame propagated to the end of the dust zone. The presence of small percentages of gas in tests having anthracite dust zones had no appreciable effect as regards lengthening of flame.

Digitized by Google

TABLE B—Ignition by Blownout Shots of Dynamite

(A-1) Blownout Shots—(Bruceton Gallery)

Test number	Ignition charge.	Air current direction	Length of dust zone	Amount of dust	Distance through which flame was observed		Remarks
					Windows	Doors	
			Ft.		Ft.	Ft.	
60	400 grams 40% dynamite, ...	With shot, ...	93	None	3	None	
58	400 grams 40% dynamite (no stemming)	With shot, ...	93	93	10	None	
59	400 grams 40% dynamite (no stemming)	With shot, ...	93	186	17	None	

The length of flame was slightly extended by dust, but propagation did not occur.

Digitized by Google

TABLE C—Ignition of Gaseous Mixtures by Electric Igniters

8415	8.25% gas.	.....	None.	None.	61′	45′
8417	8.27% gas.	.....	None.	None.	59′	39′
		Gas Charge Igtn.				
8416	7.62% gas.	Electric igniter, ...	30′	80 lbs.	45′	29′
8418	8.28% gas.	Electric igniter, ...	100′	100 lbs.	43′	33′
8540	8.00% gas.	Electric igniter, ...	30′	80 lbs.	50′	31′

The flame as observed at the side windows when dust was used averaged about 8 feet shorter than in the blank tests, and as observed at top doors, was about the same in both tests. Under these conditions anthracite dust did not extend the length of flame.

TABLE D—Ignition of Gaseous Mixtures by Blowncut Shots

Test number Q	Date	Per cent gas ignition zone (20 feet)	Gas charge ignition and stemming	Length of dust zone	Amount of dust pounds	Distance through which flame was observed	
						Windows	Doors
8542	.....	8.22	1½ lbs. B. P., ...	None	None	50′	39′
8419	3-24-14	8.02	1½ lbs. FFF B. B. (Clay stemming)	100′	Same as G8418 20 lbs. added	63′	39′
8420	3-24-14	8.01	1½ lbs. FFF B. P. (Anthracite dust stemming)	100′	Same as G8418 20 lbs. added	63′	39′
8561	4-21-14	8.37	1½ lbs. FFF B. P. (Clay stemming)	80′	80 lbs., ...	50′	32′

In the tests with dust, the length of flame averaged about 9 feet longer, at side windows, and of about equal length at top doors, as the flame in the test with a dustless zone.

Digitized by Google

TABLE E—Ignition by Blownout Shots

Test number. E. M.	Charge and stemming.	Velocity of air current	Direction of shot	Per cent. of gas in air current	Length of dust zone	Amount of dust	Distance through which gun cotton burned	Remarks.
5 2-3-12	2 lbs. FFF, ... (5 in. shale dust)	75′	With air.	None	None	None	25 ft.	Blank test for comparison
99	4 lbs. FFF, ... (3 lbs. clay), ..	+ —50	With air.	0.8	None	None	25 ft.	
96	4 lbs. FFF, ... (3 lbs. clay)	172	With air.	None	150′	300 lbs.	50 ft.	Bituminous coal. Coke globules on platform at cannon
98	4 lbs. FFF, ... (3 lbs. clay)	184′	With air.	None	350′	700 lbs.	25 ft.	Some roof coal noted in dust after firing shot
97	4 lbs. FFF, ... (3 lbs. clay) ..	+ —50	With air.	1.04	350′	700 lbs.	25 ft.	
100	4 lbs. FFF, ... (3 lbs. clay) ..	+ —50	With air.	1.18	350′	700 lbs.	150 ft.	Tin foil consumed 150′ from cannon. Coke blisters on rib

In only one test was the length of flame materially extended over that obtained in the blank test and in this case propagation to the end of the dust zone was not obtained.

As propagation was not obtained in this test, although made in a bituminous mine in the presence of 1% gas, where the action might have been assisted by some bituminous dust from ribs, it seems very unlikely that propagation can be obtained in an anthracite mine.

CONCLUSIONS

The foregoing series of tests with certain Pennsylvania anthracite dust were so arranged as to subject the dust to the most severe conditions favorable to originating explosions, if the flame from blownout shots of black powder are propagated by the dusts. The results of the tests however, possibly justify the conclusions drawn from earlier preliminary tests made by the Bureau on anthracite dust of similar character, that it is impossible, at least under conditions like those created by the physical arrangements of the tests, to obtain propagation of flame of blownout black powder shots, or the flame of an explosion of firedamp initiated by the flame of a blownout shot. These tests also in a measure substantiate the security felt against explosions of dust by Anthracite mining men of wide experience who are familiar with the working conditions in the anthracite mines.

Digitized by Google

SAFETY OR FLAMELESS EXPLOSIVES, KNOWN AS PERMISSIBLE EXPLOSIVES

From the statements made from time to time in the newspapers, magazines and trade journals, it might be inferred that before the establishment of the National Bureau of Mines in Pittsburgh, in 1909, the important question of explosives for use in the mines had received no attention in Pennsylvania. This is far from being the case. For the last ten or twelve years a good deal of consideration has been given this question by the State Department of Mines and by the foremen, superintendents and managers.

Safety or flameless explosives, now known as permissible explosives, were introduced into the mines of Pennsylvania at Johnstown, in 1902, shortly after an explosion of gas had occurred in the Rolling Mill mine at that place. The first one tried was known as Masurite and the persons who introduced it were very enthusiastic over its virtues, claiming that blasting could be done safely with it in the presence of an explosive mixture. They experimented in an abandoned entry in one of the mines where explosive gas was allowed to accumulate in the entry in a dangerous quantity, and were enabled to charge the hole with the new explosive and fire it with electricity without igniting the gas. The experiment was duplicated many times and each time without exploding the gas. Locked safety lamps were used when the experiments were made.

From Johnstown the men went to the coking coal mines of Fayette county, where they experimented in isolated entries in several mines, and demonstrated the safety qualities of the explosive to the satisfaction of several of the superintendents, mine foremen and inspectors. By degrees the new explosive gained the confidence of the superintendents to such an extent that orders were given for a limited quantity of it. During 1903 several of the most intelligent superintendents had the explosive in use in several of their most gaseous mines. After the Harwick explosion in January, 1904, in which coal dust played so important a part, superintendents, mine foremen and inspectors became more alarmed than ever about the possibility of blown-out shots igniting the coal dust, and since that time have given more attention to safety explosives. No loss of life has occurred from an explosion of gas or dust due to a blown-out shot since 1908.

During the years 1904 to 1909 inclusive, the coking coal mines of Fayette county made small use of explosives, except the so-called safety or flameless explosives. In 1904 or 1905 another safety or flameless explosive called Nehilite was introduced and was fairly successful. Other explosives from time to time were introduced and by 1909 there were possibly a half dozen different kinds in use. None of them was absolutely safe, but they were much safer than black powder or dynamite.

After the establishment in 1909 of the Testing Station in Pittsburgh, a great many new explosives were sent there to be tested, and all that passed successfully were designated "permissible explosives" and accepted by the Department of Mines of Pennsylvania for use in gaseous mines where locked safety lamps are used. They are probably as safe as explosives can be made.

Digitized by Google

The Act of June 9, 1911, prohibits the use, in bituminous mines where locked safety lamps are used, of any explosive that has not passed a successful test and been classified as permissible. The law, however, should go further and require permissible explosives to be used in all mines liberating gas in any quantity, whether safety lamps are used or not, and also in all other mines when the coal contains more than 10 per cent. of volatile matter. This would be a decided safety precaution. About thirty different kinds of explosives are on the market that can be safely used under the rules and regulations prescribed after passing the rigid test of the Bureau. It will be necessary, however, to keep a vigilant watch to see that no deterioration takes place in subsequent consignments of explosives, as it is possible that for the sake of greater profit, an inferior quality of explosive might be furnished, by which the safety of the employes would be menaced unknown to the superintendent, manager and inspector.

To provide against such a contingency, the Department will at intervals submit samples of explosives in use to the engineer in charge of the Testing Station, and if the report made by him shows that any material deterioration has occurred in the quality, the manufacturer will be notified that the explosive cannot be used in the mines of this State for at least three months from the date of the test. A second adverse report would bar the explosive permanently from the State. This seems like drastic action, but not too drastic when monetary gain is valued more highly than human life. The Act of June 9, 1911, gives the Chief of the Department power to prohibit the use of explosives when they show deterioration.

Possibly it might be well for the State of Pennsylvania to have its own testing expert, as the National Bureau of Mines may find it too great a task to do all the testing necessary for the various states.

Permissible explosives are now very extensively used in both the bituminous and anthracite regions, although in the latter the necessity for their use is not as great as in the former, owing to the non-explosible character of the anthracite dust.

BARRIER PILLARS FOR ANTHRACITE MINES

The first act to regulate the mining of coal in the Anthracite region was enacted March 3, 1870, as the immediate result of the burning of the breaker at the Avondale shaft by which 179 lives were lost. There was no second opening to the mine, and the victims being unable to escape by the shaft were suffocated by smoke from the burning wood. The shaft had been partitioned into an inlet and outlet for the air in addition to hoisting and pumping compartments.

The Act of 1870 was made as comprehensive as possible, containing provisions for guarding against all the dangers that were known to exist at that time. It created a revolution in the methods of [illegible] coal and was far reaching in its effect. The larger companies [illegible] in most of the new conditions imposed upon them, but

Google

many individuals took exception to certain provisions as being entirely too drastic. In the enforcement of the Act, however, the Courts generally sustained the Inspectors. The Act, while effective in adding greatly to the safety and systematic methods of mining, naturally lacked many essential requirements that experience subsequently demonstrated as necessary for the protection of the workmen. Having had experience as a miner, mine foreman and superintendent of mines in the Wyoming Valley, I was familiar with the need that existed for barrier pillars to safeguard the mine workers of the future and knew the inadequate provisions for that purpose in the Act of 1870. I was commissioned as Inspector of Mines in June, 1881, and in my first report made the following remarks on the need of such pillars:

"This subject deserves the attention of all parties interested in coal mining, especially the operators and land owners. Each side of a boundary line should have at least fifty feet of coal left untouched, which would make a pillar of one hundred feet wide between the collieries. The size of these pillars should vary according to circumstances. In thick seams like the Mammoth, the pillars should be wider than in smaller seams like the Wharton. Their size should also be regulated by the character of the immediate overlying strata, the vertical height to next overlying seam, and it should be especially regulated by the vertical thickness or height of the different strata to the surface. For instance, a vertical height of one hundred and fifty feet does not need as strong a pillar as a vertical height of three hundred feet. The character of all overlying strata, the thickness and number of coal seams should also be considered. Enough boundary pillars should be left in to hold up the overlying strata of whatever character and thickness it may be, as they will eventually have to bear all the weight, for those left in today will prove worthless when the crumbling mass above begins to move. I know of several mines where one hundred feet of pillars were marked to be left in, but with a recklessness bordering on criminality they have been mined from both sides until there is left only a shell of a few feet. In other mines they never had a pillar, and there is nothing to show the boundary line inside. The advantages of having large boundary pillars are many and very important. Mine fires, sudden flooding and general caving in of mines are among the things of today, and will, in the future, work much more ruinous effects. Mine fires at times can only be extinguished effectually by water, yet no company has a right to flood its colliery or collieries, if in so doing it also floods adjoining collieries. In the case of a sudden flooding of a colliery or collieries, proper pillars would keep the water within bounds, and other collieries would not be affected, and costly litigations would be avoided. General caving in, such as the Harleigh disaster in 1877, is liable to occur at any time, and without this strong barrier other collieries are in danger of being ruined. Another and perhaps the most important reason is this: Different collieries in the same basin will not be exhausted at the same time, and probably not for an interval of years. The owners of those first exhausted will, of course, remove their pumping machinery, and leave the abandoned places to fill up with water, sufficiently perhaps to drown out all the other collieries in the same basin, unless new and powerful machinery is put in. Then the point to decide will be,

Digitized by Google

whether it will pay the company or companies still mining to make such addition to expenses. If they can see a small margin of profit they will do it; otherwise they will have to abandon their mine or mines. I have no hesitation in saying that a large amount of anthracite coal, which could be mined with judicious forethought, will be lost in this way, unless this matter is attended to, and that very soon, by some party having authority to compel compliance with its order. I respectfully call the attention of Senators and Representatives from the Anthracite regions to these subjects, as they are of special importance to their constituents."

At that time, and for many years after, very little attention was given to my suggestions, as very few persons recognized the need for such precautionary measures.

At the session of 1883 an Act was passed authorizing the Governor to name a commission to revise the Anthracite Law. The Commission held numerous meetings and discussed all matters that in their opinion would give additional safety to the mining of coal, including boundary pillars. The bill as introduced in the Legislature, however, did not contain any provision regarding pillars, and consequently the Act as passed in June, 1885, does not cover the question.

Another Commission was subsequently appointed to amend the Act of 1885, and on the report made to the Legislature, the Act of 1891 was passed. This Act is in force at the present time, but is generally looked upon as antiquated. It contains, however, the following provision regarding barrier pillars:

Article III, Section 10. "It shall be obligatory on the owners of adjoining coal properties to leave, or cause to be left, a pillar of coal in each seam or vein of coal worked by them, along the line of adjoining property, of such width, that taken in connection with the pillar to be left by the adjoining property owner, will be a sufficient barrier for the safety of the employes of either mine in case the other should be abandoned and allowed to fill with water; such width of pillar to be determined by the engineers of the adjoining property owners, together with the inspector of the district in which the mine is situated, and the surveys of the face of the workings along such pillar shall be made in duplicate and must practically agree. A copy of such duplicate surveys, certified to, must be filed with the owners of the adjoining properties and with the inspector of the district in which the mine or property is situated."

Another Commission was appointed by authority of the Act of 1911 and made report to the Legislature of 1913. The Commission spent about sixty days in the preparation of a new Code that was presented to the Legislature, but it failed of passage.

The article on Barrier Pillars contained in the Proposed Code follows herewith.

If the Code had been enacted into a law with this article as prepared, the question of safe-guarding the mines in this respect would have been definitely and satisfactorily settled.

ARTICLE XX

Boundary Pillars

Section 1. It shall be obligatory on the land owners and operators to leave a pillar of coal in each seam worked along the lines of

Digitized by Google

"The Legislature has not defined with provision the width of the pillar, and it is very properly admitted that in the nature of things this would have been impossible, because the width necessary in each case must be determined with reference to the situation of the particular property. From this it necessarily results that it was competent for the Legislature to lay down a general rule, and then establish an administrative tribunal with authority to fix the precise width or thickness of pillar that will suit the necessities of the particular situation, and constitute a compliance with the general rule: United States v. Grimaud, 220 U. S. 506, 517-522. * * * *

"But it is insisted that under the language of the act before us the tribunal lacks uniformity, and there is uncertainty respecting the manner of its constitution. It is said that on one side of the property line there might be but a single owner, while on the other side there might be several owners, and the engineers representing the latter might outnumber and combine against the representative of the single owner and compel him to leave a barrier pillar of an unreasonable width. This objection is for present purposes sufficiently disposed of by the decisions of the Supreme Court of Pennsylvania which establish that the tribunal is composed of three, namely, the inspector and two engineers. We see no difficulty in working this out in practice. The owner on each side has a single engineer in the make-up of the body; and if there be a sub-division of the property on one side of the line there would, no doubt, be separate findings with respect to the frontage of each sub-division.

"It is objected that the act presupposes a condition which does not always exist, viz, that the owners of coal properties have engineers in their employ; whereas, it is insisted that there are many coal owners who employ no engineer, especially among the lessors of coal property. But it cannot be seriously doubted, the business under regulation being so dangerous, that it is within the power of the State to declare that coal mining shall not be conducted without the employment of an engineer; and we deem it to be within the competency of the law-making power to require, also, that notice of such a proceeding be given to the lessee actually in charge of the mining operations, leaving the lessor's interest to be represented by him. It is the lessee whose conduct is to be controlled. The lessor's interest is not so directly involved, and for the purpose in hand is not opposed to that of the lessee. It is not a judicial but a quasi-legislative proceeding. And if the lessor desires to participate, it is not to be supposed that he would have difficulty in obtaining a hearing.

"A requirement of reasonable notice to the lessee seems to be implied in the language of the section. There is to be a 'determination' by a tribunal of which the lessee's representative is a member. Assuming, as we do, that for constitutional reasons there must be a fair though summary hearing, it requires no very clear expression to justify such a construction of the section as will render notice obligatory. Certainly this court ought not to adopt a contrary construction in the absence of something in the State decisions to require it. * * *

"It is objected that the act does not state whether the tribunal must be unanimous in order to reach a determination, or what shall be done in case of disagreement; and it is argued that in case of such disagreement the solution of the question to be determined might be

Digitized by Google

delayed for such a length of time as to embarrass the mining operations and throw the workmen out of employment. Here, again, plaintiff in error seems to be unnecessarily borrowing trouble, but we will deal with the point on its merits. This particular objection does not seem to be met by the decision of the State court, either in the present case, or in that of Curran v. Delano, 235 Pa. 478. They seem to hold simply that the tribunal is made up of three, without deciding what function is to be performed by the respective members, nor how a conclusion is to be reached. That being so, it is not incumbent upon us to construe the statute in this regard; but rather, to say merely whether the section admits of any reasonable construction that will sustain its constitutionality.

"For in cases other than such as arise under the contract clause of the Constitution, it is the appropriate function of the court of last resort of a state to determine the meaning of the local statutes. And in exercising the jurisdiction conferred by Section 237, Jud. Code, it is proper for this court rather to wait until the State court has adopted a construction of the statute under attack than to assume in advance that a construction will be adopted such as to render the law obnoxious to the Federal Constitution: Bachtel v. Wilson, 204 U. S. 36, 40; Adams v. Russell, 229 U. S. 353, 360.

"And, even aside from the consideration just adverted to, it is a general and fundamental rule that if a statute be reasonably susceptible of two interpretations, one of which would render it unconstitutional and the other valid, it is the duty of the courts to adopt that construction which will uphold its validity; there being a strong presumption that the law-making body has intended to act within, and not in excess of, its constitutional authority: Sinking Fund Cases, 99 U. S. 700, 718; Mugler v. Kansas, 123 U. S. 623, 661; Knights Templars' Indemnity Co. v. Jarman, 187 U. S. 197, 205; United States v. Delaware & Hudson Co., 213 U. S. 407.

"Approaching the subject from this point of view, we observe, first, the language of the section—'such width of pillar to be determined by the engineers of the adjoining property owners, together with the inspector of the district in which the mine is situated.' Attention has already been called to the qualifications of the inspector, and the safeguards surrounding the mode of his appointment. The statute confers upon him most important powers, and gives him access to complete information respecting the problems that come before him. There is provision, also, for his removal if neglectful or incompetent, or if guilty of malfeasance in office.

"In the clause in question, we think it is quite reasonable to interpret the words 'together with the inspector of the district' as meaning that the inspector shall be of the quorum—shall participate in any determination that is made. But the 'matter is to be determined by the engineers, * * * together with the inspector.' The phrase, of course, admits of the interpretation that if the engineers agree, the added approval of the inspector shall end the matter. We think it not an unreasonable construction that if the engineers disagree they shall submit their differences to the inspector, and that a determination agreed to by one of them in conjunction with the inspector shall fulfill the requirements of the act. It must be remembered that this tribunal is to settle, not a private property right,

Google

2. TO REDUCE ACCIDENTS BY MINE CARS

(a) That all gangways and main haulage roads driven after January 1, 1914, where employes travel and coal is hauled thereon, shall have a clear space of two and one-half feet from the top rail of the car to the rib, and also to the timber, which shall be made and continued throughout on the same side of the passageway, if, in the judgment of the inspector, the conditions will permit; and all such space shall be kept free from obstructions. However, if it is found impracticable by the inspector to provide such spaces, then safety holes of ample dimensions shall be made on the same side, and not more than 100 feet apart, which shall be kept clear of obstructions and whitewashed.

(b) That the distance between props and top rails of cars used in breasts shall not be less than two feet and said space shall be kept free from obstructions.

(c) That the height of gangways and traveling-ways wherein employes have to travel into and out of the mines, shall not be less than five feet six inches from the top of sill to roof.

(d) That no person under the age of 17 years shall be employed as runner or driver in any mine.

(e) That no person except the driver shall ride on the front end of the car, and no person shall ride between cars, and upon the request of the inspector a seat shall be provided for the driver.

(f) That in slopes where persons are lowered or hoisted special cars shall be provided for that purpose, the cars to be approved by the inspector of the district.

(g) That in gangways where platforms are used, platforms shall not extend over the top rail of the car.

(h) That where chutes are used they shall not extend more than 12 inches over the top rail of the car, unless they are at least 16 inches above the top rail.

(i) That when a breast is finished or abandoned for over 30 days all chutes and platforms that may extend over the top rail of the car shall be removed.

3. TO REDUCE ACCIDENTS BY BLASTS

(a) That wherever practicable, all blasts inside the mines shall be exploded by an electric battery.

(b) That all such batteries used shall be approved by the mine foreman, and he shall instruct the miners as to their use, so blasts can be exploded with greater safety.

(c) That only one kind of explosives shall be used in the same hole.

(d) That all shot holes in coal shall be tamped to the mouth.

(e) That a charge of high explosives in coal that has missed fire shall not be withdrawn nor shall the hole be reopened.

4. TO REDUCE ACCIDENTS FROM EXPLOSIONS OF GAS

(a) That the superintendent shall, as far as practicable, see that the provisions of General Rules 4, 5, 6, 7, 8, 9, 10 and 11 are complied with.

Digitized by Google

(b) That cross-headings between inlet and outlet airways in each split of air when closed permanently shall be substantially closed with walls of concrete or of stone or brick laid in cement or lime mortar. Provided, however, that the inspector may give written approval of other suitable material in mines with heavy pitches.

(c) That cross-headings between breasts, except those nearest the face, shall be closed, and a brattice from the last cross-heading shall be erected so as to conduct the air to the face. Provided, however, that the closing of such cross-headings and the erection of a brattice may be omitted on the written consent of the inspector.

(d) That each breast when finished shall have a cross-heading driven at the face to prevent an accumulation of explosive gas.

(e) That every permanent overcast or undercast built hereafter shall be substantially built of incombustible material.

(f) That in each mine there shall be telephone connections between the surface and all important parts of the mine, and an attendant shall be on duty at all times at the telephone on the surface.

5. TO REDUCE ACCIDENTS IN SHAFTS

(a) That every shaft and also every slope with an angle of over 35 degrees, wherein men are lowered and hoisted, shall have safety gates at the top and also at each intermediate lift thereof, which shall be controlled by cage, gunboat or car.

(b) That where men are lowered or hoisted in such shafts and slopes, a safety device that will prevent overwinding and also control the speed of cage, gunboat or cars at all times, shall be attached to the engine.

6. TO REDUCE ACCIDENTS BY EXPLOSIVES

(a) That not more than five pounds of high explosives shall be taken into a mine at any one time by any one person, unless more is required for use in that shift.

(b) That high or permissible explosives shall not be sold for use in mines unless the name of the manufacturer and name and grade of explosives are stamped on each stick.

(c) That detonators shall at all times be kept separate and apart from other explosives until required for use.

(d) That no frozen explosives shall be sold or given to any employe.

(e) That no person shall thaw explosives inside or outside the mines, except by the method recommended by the manufacturer.

(f) That black powder shall not be sold loose in kegs, cases or packages, but shall be sold in cartridges, and shall not be taken into the mine, except in non-conductive receptacles.

(g) That detonators shall be sold in boxes of ten in a box, and not more than one box shall be sold to any one person at one time unless more are necessary for a day's work.

4. TO REDUCE ACCIDENTS FROM EXPLOSIONS OF GAS

(a) That when electric power is used in and about the mines, it shall be cared for in accordance with Article XI of the Bituminous Mine Act of June 9, 1911, so far as it can be applied to anthracite mines.

Google

The total number of fatal accidents by falls of coal, slate and roof at face of working places was 197, or 75.48 per cent.; at pillar work, 34, or 13.03 per cent.; on gangways while timbering and repairing, 14, or 5.36 per cent.; on gangways while riding on cars, 6, or 2.30 per cent.; in crosscuts, 4, or 1.53 per cent.; in airways, 2, or .77 per cent.; on slopes, 2, or .77 per cent.; on tunnel going out of mine, 1, or .38 per cent.; near foot of slope while riding on cars, 1, or .38 per cent.

Eighty-six persons were killed by cars, 40 of whom were killed on gangways, 20 on slopes, and 26 at other places.

Fifty-two persons were killed by blasts at face of working places and 10 persons by explosions of blasts at other places. Explosions of powder and dynamite on gangways and at other places killed 11 persons.

Of the accidents on the surface, 37 or 55.23 per cent. were caused by cars; 12, or 17.91 per cent. by machinery, and 18, or 26.86 per cent. by other causes.

The table submitted herewith shows the accidents in each inspection district by falls and other causes.

These reports show 158 miners killed by falls: 123, or 77.85 per cent. were killed at face of working places; 24, or 15.19 per cent. while removing pillars; 5, or 3.16 per cent. on gangways while timbering and repairing; 2, or 1.27 per cent. on gangways while riding on cars, and 4, or 2.53 per cent., in crosscuts. Of the 158 fatalities, 123, or 77.85 per cent. were due to the carelessness of the victims; 2, or 1.26 per cent. to the carelessness of others, and 33, or 20.89 per cent. were unavoidable.

Twelve miners killed by mine cars: 4, or 33.33 per cent. on gangways; 4, or 33.33 per cent. in chambers; 2, or 16.67 per cent. on slopes, and 2, or 16.67 per cent. in tunnel. Of the 12 fatalities, 11 or 91.67 per cent. were due to the carelessness of the victims, and 1, or 8.33 per cent. was unavoidable.

Twenty miners were killed by explosions of gas: 14, or 70.00 per cent. of whom were in chambers; 1, or 5.00 per cent. on plane; 1, or 5.00 per cent. on gangway; 1, or 5.00 per cent. in old workings; 1, or 5.00 per cent. in heading, and 2, or 10.00 per cent. in tunnel. Of the 20 fatalities, 12 or 60.00 per cent. were due to the carelessness of the victims; 3, or 15.00 per cent. to the carelessness of others, and 5, or 25.00 per cent. were unavoidable.

Eight miners were killed by explosions of powder and dynamite: 6, or 75.00 per cent. of whom were killed at face of workings; 1, or 12.50 per cent. of whom were killed on gangways, and 1, or 12.50 per cent. in crosscuts. Of the 8 fatalities, 7, or 87.50 per cent. were due to the carelessness of the victims and 1, or 12.50 per cent. was unavoidable.

Forty-eight miners killed by blasts: 43, or 89.58 per cent. of whom were killed at face of workings; 2, or 4.17 per cent. on gangways, and 3, or 6.25 per cent. in crosscuts. Of the 48 fatalities, 41, or 85.42 per cent. were due to the carelessness of the victims, 1, or 2.08 per cent. to the carelessness of others and 6, or 12.50 per cent. were unavoidable.

Three miners killed, falling down shaft, through their own carelessness.

Digitized by Google

Three miners killed, falling down chute, through their own carelessness.

Two miners killed, falling down chamber, accidents were unavoidable.

Five miners killed, falling down manway, 3, or 60.00 per cent. were due to the carelessness of the victims and 2, or 40.00 per cent. were unavoidable.

Two miners killed, crushed at batteries, 1, or 50.00 per cent., due to the carelessness of the victim, and 1, or 50.00 per cent., was unavoidable.

One miner killed by electricity on gangway, through his own carelessness.

Five miners suffocated by gas: 2, or 40.00 per cent., were due to the carelessness of the victims; 1, or 20.00 per cent., to the carelessness of others, and 2, or 40.00 per cent., were unavoidable.

Five miners killed, struck by posts, 3, or 60.00 per cent., due to the carelessness of the victims, and 2, or 40.00 per cent. were unavoidable.

One miner killed, struck by rope, through his own carelessness.

One miner killed, struck by pick handle, through his own carelessness.

One miner killed, struck by iron gate, through his own carelessness.

Seven miners killed, rush of coal, 6, or 85.71 per cent., due to the carelessness of the victims, and 1, or 14.29 per cent., was unavoidable.

Two miners killed, rush of water on gangway, through their own carelessness.

Two miners killed, rush of coal and water, the accidents were unavoidable.

The total number of miners killed was 286. Two hundred and nineteen, or 76.57 per cent., were killed through their own carelessness; 7, or 2.45 per cent., through the carelessness of others, and 60, or 20.98 per cent., were unavoidable.

Eighty-two miners' laborers killed by falls, 65 or 79.27 per cent. of whom were killed at face of workings; 10, or 12.19 per cent., while removing pillars; 4, or 4.88 per cent., on gangways while timbering and repairing; 1, or 1.22 per cent., on slope; 1, or 1.22 per cent. in airway; 1, or 1.22 per cent., in tunnel going out of mine. Of the 82 fatalities, 32, or 39.03 per cent., were due to the carelessness of the victims; 13, or 15.85 per cent., to the carelessness of others, and 37, or 45.12 per cent. were unavoidable.

Nineteen miners' laborers killed by cars: 6, or 31.58 per cent., of whom were killed on gangways; 2, or 10.53 per cent., in chambers; 7, or 36.84 per cent., on slopes; 1, or 5.26 per cent., at foot of slope; 1, or 5.26 per cent., in tunnel, and 2, or 10.53 per cent., on plane. Of the 19 fatalities, 14, or 73.69 per cent., were due to the carelessness of the victims, 1, or 5.26 per cent., to the carelessness of others, and 4, or 21.05 per cent. were unavoidable.

Eleven miners' laborers killed by explosions of gas: 4, or 36.36 per cent., of whom were killed in chambers; 1, or 9.09 per cent., in old workings, and 6, or 54.55 per cent., in tunnel. Of the 11 fatalities, 2, or 18.18 per cent., were due to the carelessness of the victims, 2, or 18.18 per cent. to the carelessness of others and 7, or 63.64 per cent. were unavoidable.

Digitized by Google

Causes and Location of Fatal Accidents, by Districts, 1913

Inside	Districts																					Totals
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
Falls of coal at face,	....	1	....	1	....	2	5	....	8	1	2	2	5	1	3	6	1	5	1	....	1	45
Falls of coal at pillar work,	....	....	....	....	....	3	2	....	....	3	2	....	....	1	....	....	1	....	2	....	....	14
Falls of coal on gangway while timbering and repairing,	....	....	....	....	....	....	....	....	....	....	2	....	1	....	....	....	....	....	....	....	....	3
Falls of coal on gangway while riding on cars,	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	1
Falls of coal in heading,	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	1	....	1	....	3
Falls of coal in airway,	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	1
Falls of slate at face,	....	....	....	....	....	....	5	3	....	....	4	6	1	....	2	1	....	....	3	2	....	27
Falls of slate at pillar work,	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	1	....	1	....	....	....	4
Falls of slate on gangway while timbering and repairing,	....	....	....	....	....	....	....	....	....	....	1	....	....	....	1	....	....	1	1	....	....	4
Falls of slate on gangway while riding on cars,	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	1	....	2
Falls of roof at face,	12	27	7	8	10	14	4	15	7	8	....	3	1	....	....	....	4	1	....	....	4	125
Falls of roof at pillar work,	6	....	....	....	1	3	....	1	....	2	....	....	....	....	....	....	....	1	....	....	2	16
Falls of roof on gangway while timbering and repairing,	....	....	....	1	....	....	....	1	2	....	....	....	1	....	....	1	....	....	....	1	....	7
Falls of roof on gangway while riding on cars,	....	....	....	....	....	....	....	1	....	1	....	....	1	....	....	....	....	....	....	....	....	3
Falls of roof in tunnel going out of mine,	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	1
Falls of roof near foot of slope,	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Falls of roof in heading,	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Falls of roof in airway,	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	1
Falls of roof on slope,	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	1	2
Cars on gangway,	2	3	4	1	2	1	2	6	....	....	2	4	3	1	1	....	2	1	....	2	3	40
Cars in chamber,	....	2	2	1	....	....	....	1	....	1	1	....	....	....	1	....	....	....	....	....	....	9
Cars on slope,	....	....	....	....	....	1	2	5	....	3	2	....	1	....	2	2	....	1	1	....	....	20
Cars on plane,	....	1	1	....	1	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	5
Cars in tunnel,	....	....	....	....	....	....	1	....	....	....	....	1	....	1	....	....	1	2	....	....	....	6
Cars at foot of shaft,	....	....	....	1	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2
Cars at foot of slope,	....	1	....	....	....	....	....	....	....	1	....	....	....	....	1	1	....	....	....	....	....	4
[illegible]ions of gas in tunnel,	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	20	....	20
[illegible]s of gas in chamber,	....	....	2	1	....	....	1	....	....	3	....	3	....	....	....	1	3	....	3	1	....	20
[illegible] of gas on gangway,	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	2
[illegible] of gas in old workings,	....	....	....	....	....	1	....	....	2	....	....	....	....	....	1	....	....	....	....	....	....	4
[illegible]as in heading,	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1
[illegible]as on plane,	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
[illegible]as in chamber,	....	....	....	1	....	....	....	....	....	....	....	....	....	....	1	....	....	....	1	....	....	3
[illegible]as on gangway,	....	....	....	....	....	....	....	....	2	....	....	....	....	....	1	....	....	....	....	....	....	3

| | | |

	1910	1911	1912	1913	Totals	Percentages
By explosions of powder and dynamite						
At face of working places,	9	6	9	8	32	.....
On gangways,	.....	13	12	1	26	.....
In cross headings,	7	2	4	1	14	.....
In tunnels,	1	.....	.....	1	2	.....
Location not given,	5	.....	.....	.....	5	.....
Totals and percentage,	22	21	25	11	79	3.63
By explosions of gas						
In chambers,	14	13	22	20	69	.....
On gangways,	3	9	3	2	17	.....
In old workings,	2	3	9	4	18	.....
On slopes,	1	.....	.....	1	2	.....
In cross headings,	.....	4	.....	1	5	.....
In tunnels,	.....	5	.....	20	25	.....
In manways,	.....	.....	1	.....	1	.....
Totals and percentage,	20	34	35	48	137	6.29
Suffocation by gas,	13	14	5	10	42	1.93
Suffocation by mine fire,	.....	*72	.....	.....	72	3.31
Falling into shafts, slopes, etc.,	19	21	18	30	98	4.50
Crushed at batteries,	3	5	4	3	15	.69
By electricity,	3	2	5	1	11	.50
By machinery,	2	4	.....	2	8	.37
Miscellaneous causes,	22	30	31	43	116	5.32
Grand totals and percentage	509	615	498	557	2,179	100.00

*Pancoast disaster.

COMPARATIVE TABLE OF ACCIDENTS

Pennsylvania—United States, 1899-1913, Inclusive

The table herewith shows the fatal accidents in the anthracite mines of Pennsylvania as compared with those in the bituminous mines of the United States.

During the fifteen years, 3.66 lives were lost per 1,000 employes in the mines of United States as against 3.49 in the anthracite mines. In the United States 5.55 lives were lost for every 1,000,000 tons produced. In the anthracite mines 7.53 lives were lost for every 1,000,000 tons produced. In the United States 180,272 tons were produced per life lost. In the anthracite mines 132,878 tons were produced per life lost. In the number of accidents per 1,000 employes the anthracite makes the better showing, but there is a larger production of coal per life lost in the United States.

Digitized by Google

Comparative Table of Accidents, 1899-1913, Inclusive

Years	United States						Pennsylvania					
	Production	Employes	Total accidents	Lives lost per 1,000 employes	Lives lost per 1,000,000 tons produced	Production per life lost	Production	Employes	Total accidents	Lives lost per 1,000 employes	Lives lost per 1,000,000 tons produced	Production per life lost
1899,	244,838,019	396,624	1,216	3.07	4.97	201,347	60,518,331	140,604	461	3.28	7.62	131,276
1900,	260,164,397	432,453	1,492	3.45	5.73	174,373	57,363,396	143,824	411	2.86	7.16	139,570
1901,	288,723,174	476,655	1,549	3.25	5.37	186,393	67,094,665	147,651	513	3.47	7.65	130,789
1902,	296,687,066	510,437	1,895	3.71	6.39	156,563	41,340,935	148,139	300	2.03	7.26	137,803
1903,	345,200,165	547,431	1,752	3.20	5.08	197,317	75,232,563	151,827	518	3.41	6.89	145,237
1904,	339,164,812	573,373	2,004	3.50	5.91	169,244	73,594,369	161,330	595	3.69	8.06	123,688
1905,	386,379,243	615,628	2,232	3.63	5.78	173,109	78,647,020	168,254	644	3.83	8.19	122,122
1906,	407,835,003	631,086	2,116	3.35	5.19	192,710	72,139,510	166,175	557	3.35	7.72	129,514
1907,	461,406,023	655,418	3,197	4.88	6.93	144,325	86,056,412	168,774	708	4.20	8.23	121,549
1908,	404,932,764	672,794	2,449	3.64	6.05	165,346	83,543,243	174,503	678	3.88	8.12	123,220
1909,	460,761,427	666,523	2,668	4.00	5.79	172,699	80,223,833	171,195	567	3.31	7.07	141,488
1910,	501,596,378	725,030	2,840	3.92	5.66	176,618	83,683,994	166,175	601	3.57	7.18	139,241
1911,	496,221,168	728,348	2,719	3.73	5.48	182,501	90,917,176	173,338	699	4.03	7.69	130,067
1912,	534,466,580	722,662	2,360	3.27	4.41	226,469	84,426,869	175,098	601	3.43	7.12	140,477
1913,	*570,000,000	*728,355	*2,785	3.82	4.88	204,688	91,626,964	175,310	624	3.56	6.81	146,838
Totals and averages,	5,998,376,220	9,082,817	33,274	3.66	5.55	180,272	1,126,409,280	2,432,197	8,477	3.49	7.53	132,878

*Estimated.

Digitized by Google

Table showing companies that had fatal accidents inside or outside their mines; causes of accidents, fatalities per 1,000 employes and per 1,000,000 tons produced, 1913

Companies	Production net tons	Employes inside	Causes of Fatal Accidents Inside: Falls	Cars	Gas	Miscellaneous causes	Total fatal accidents inside	Fatalities inside per 1,000 employes	Fatalities inside per 1,000,000 tons produced	Employes outside	Causes of Fatal Accidents Outside: Cars	Machinery	Electricity	Miscellaneous causes	Total fatal accidents outside	Grand total fatal accidents inside and outside	Grand total employes	Fatalities inside and outside per 1,000 employes	Fatalities inside and outside per 1,000,000 tons produced
Philadelphia and Reading Coal and Iron Company,	12,705,331	19,055	30	12	24	22	88	4.62	6.93	7,875	9	3	....	3	15	103	26,930	3.82	8.11
Delaware, Lackawanna and Western Railroad Company,	10,238,190	15,824	31	13	4	27	75	4.74	7.29	3,242	1	1	1	2	5	80	19,066	4.20	7.78
Lehigh Valley Coal Company,	9,056,567	11,215	27	11	1	20	59	5.26	6.51	3,876	3	1	....	2	6	65	15,091	4.31	7.18
Delaware and Hudson Company,	7,336,094	10,961	28	7	....	2	37	3.38	5.04	3,272	3	....	....	3	6	43	14,233	3.02	5.86
Lehigh and Wilkes-Barre Coal Company,	6,406,808	7,902	14	4	3	....	25	4.43	5.46	2,029	2	....	....	....	2	27	9,931	2.72	5.93
Pennsylvania Coal Company,	6,040,921	8,510	16	4	1	7	28	3.29	4.64	2,816	1	1	....	....	1	29	11,326	2.56	4.80
Lehigh Coal and Navigation Company,	4,843,508	6,009	13	3	4	13	23	3.83	4.75	2,531	5	....	....	1	6	29	8,540	3.40	5.99
Scranton Coal Company,	2,423,667	4,055	12	3	....	6	21	5.18	8.66	1,555	....	....	....	....	....	21	5,410	3.88	8.66
Susquehanna Coal Company,	2,247,021	2,907	9	2	3	1	15	5.16	6.68	1,374	....	2	....	....	....	15	4,281	3.50	6.68
Mineral Railroad and Mining Company,	2,238,029	3,730	5	3	1	4	13	3.49	5.81	1,489	2	....	....	....	2	15	5,219	2.87	6.70
Kingston Coal Company,	1,985,275	2,541	6	2	....	4	12	4.72	6.04	894	....	....	....	....	....	12	3,435	3.49	6.04
Hillside Coal and Iron Company,	1,727,768	2,692	5	....	....	5	10	3.71	5.79	946	....	....	....	....	....	10	3,638	2.75	5.79
Hudson Coal Company,	1,718,522	2,767	3	....	....	3	6	2.17	3.49	841	1	....	....	....	1	7	3,608	1.94	4.07
Coxe Brothers and Company, Incorporated,	1,636,341	1,442	1	1	....	1	3	2.08	1.83	788	....	....	....	2	2	5	2,225	2.25	3.06
G. B. Markle Company,	1,625,468	1,636	1	1	....	1	3	1.83	1.85	600	....	....	....	....	....	3	2,226	1.34	1.85
Summit Branch Mining Company,	1,060,270	1,687	2	....	2	1	5	2.96	4.72	763	....	....	....	....	....	5	2,450	2.04	4.72
Price-Pancoast Coal Company,	713,896	1,187	2	1	....	1	4	3.37	5.60	252	....	....	....	....	....	4	1,439	2.71	5.60
A. Pardee and Company,	656,981	1,019	1	1	....	....	2	1.96	3.04	505	1	....	....	....	1	3	1,524	1.97	4.57
Forty Fort Coal Company,	620,712	1,096	2	5	....	3	10	9.12	16.11	296	....	....	....	....	....	10	1,392	7.18	16.11
Sterrick Creek Coal Company,	503,583	812	3	....	....	....	3	3.69	5.96	180	....	....	....	....	....	3	992	3.02	5.96
C. M. Dodson and Company,	440,524	490	1	....	....	....	1	2.04	4.54	254	....	....	....	....	....	2	744	2.69	4.54
Lytle Coal Company,	433,524	594	2	....	1	....	3	5.05	6.92	289	1	....	....	1	2	5	833	4.80	9.23
Mt. Lookout Coal Company,	420,922	621	2	....	....	1	3	4.83	11.88	146	....	....	....	....	....	3	767	3.91	11.88
Lackawanna Coal Company, Limited,	384,842	679	2	1	....	....	3	4.42	7.80	174	....	....	....	....	....	3	853	3.52	7.80
Pine Hill Coal Company,	333,829	540	1	1	....	....	2	3.70	5.22	191	....	....	....	....	....	2	731	2.74	5.22
Plymouth Coal Company,	293,254	618	1	....	....	2	3	4.85	7.53	248	....	....	....	....	....	3	866	3.46	7.53

Digitized by Google

St. Clair Coal Company,	378,180	394	1	....	....	1	2	4.08	5.29	316	....	....	....	....	....	2	710	2.82	5.29
Harleigh Brookwood Coal Company,	345,685	427	5	1	....	1	7	16.39	20.25	352	....	....	....	....	....	7	779	8.99	20.25
Mt. Jessup Coal Company, Limited,	344,046	511	....	....	....	1	1	1.96	2.91	296	....	1	....	....	1	2	807	2.48	5.81
Alden Coal Company,	337,666	560	1	....	....	1	2	3.57	5.92	177	....	....	....	....	....	2	737	2.71	5.92
Thomas Colliery Company,	322,683	278	....	....	....	1	1	3.60	3.10	213	....	....	....	....	....	1	491	2.04	3.10
Estate A. S. Van Wickle,	318,946	405	1	....	....	....	1	2.47	3.14	215	1	....	....	....	1	2	620	3.23	6.27
Oak Hill Coal Company,	308,278	503	1	....	1	....	2	3.98	6.49	222	....	....	....	....	....	2	725	2.76	6.49
Colonial Collieries Company,	299,852	409	....	1	....	1	2	4.89	6.67	211	....	....	....	....	....	2	620	3.23	4.89
Greenough Red Ash Coal Company,	297,447	385	3	1	....	....	4	10.39	13.45	235	....	....	....	....	....	4	620	6.45	13.45
Moosic Mountain Coal Company,	281,851	407	2	....	....	....	2	4.91	7.11	80	2	....	....	....	2	4	487	8.21	14.22
Wilkes-Barre Anthracite Coal Company,	264,188	324	....	1	....	2	3	9.26	11.36	87	....	....	....	....	....	3	411	7.30	11.36
Red Ash Coal Company,	254,270	349	1	....	....	....	1	2.87	3.93	312	1	....	....	1	2	3	661	4.54	11.80
Excelsior Coal Company,	253,998	443	2	....	....	....	2	4.51	7.87	106	....	....	....	....	....	2	549	3.64	7.87
Buck Run Coal Company,	241,704	332	....	....	....	2	2	6.02	8.27	138	....	....	....	....	....	2	470	4.26	8.27
Elliott McClure and Company,	238,434	523	5	....	....	1	6	11.47	25.16	123	....	....	....	....	....	6	646	9.29	25.16
Northwest Coal Company,	210,322	268	1	....	....	....	1	3.73	4.75	89	2	....	....	....	2	3	357	8.40	14.26
East Boston Coal Company,	208,644	320	2	....	....	1	3	9.37	14.38	153	....	....	....	....	....	3	473	6.34	14.38
Shipman Koal Company,	195,026	272	1	....	....	....	1	3.68	5.13	159	....	....	....	....	....	1	431	2.32	5.13
Enterprise Coal Company,	194,524	326	....	....	....	1	1	3.07	5.14	162	....	....	....	1	1	2	488	4.10	10.28
Northern Anthracite Coal Company,	190,174	193	....	1	....	....	1	5.18	5.26	101	....	1	....	....	1	2	294	6.80	10.52
Thorne-Neale Washery Company,	169,340	.....	....	....	....	....	....	.....	.....	50	....	1	....	....	1	1	50	20.00	5.91
J. S. Wentz and Company,	159,331	150	1	....	....	....	1	6.67	6.28	123	....	....	....	....	....	1	273	3.66	6.28
Peoples Coal Co.,	155,240	323	....	....	2	....	2	6.19	12.88	100	....	....	....	....	....	2	423	4.73	12.88
Raub Coal Company,	144,482	281	1	2	....	....	3	10.68	20.76	135	....	....	....	....	....	3	416	7.21	20.76
Buck Ridge Coal Mining Company,	129,099	275	....	....	1	1	2	7.27	15.49	69	....	....	....	....	....	2	344	5.81	15.49
Archbald Coal Company,	128,302	230	1	1	....	....	2	8.70	15.59	80	....	....	....	....	....	2	310	6.45	15.59
Dolph Coal Company, Limited,	126,800	299	1	1	....	....	2	6.69	15.77	145	....	....	....	....	....	2	444	4.50	15.77
Trevorton Colliery Company,	125,621	274	....	....	....	....	....	.....	.....	66	1	....	....	....	1	1	340	2.94	7.96
George F. Lee Coal Company,	125,334	187	....	....	....	1	1	5.35	7.98	63	....	....	....	....	....	1	250	4.00	7.98
Traders Coal Company,	117,049	282	2	....	....	....	2	7.09	17.09	69	....	....	....	....	....	2	351	5.70	17.09
Darkwater Coal Company,	116,479	113	....	....	....	....	....	.....	.....	90	....	....	....	1	1	1	203	4.93	8.59
M. S. Kemmerer and Company,	110,803	143	1	....	....	....	1	6.99	9.03	101	....	....	....	....	....	1	244	4.10	9.03
Hazle Mountain Coal Company,	108,851	160	1	....	....	....	1	6.25	9.19	85	....	....	....	....	....	1	245	4.08	9.19
Rissinger Brothers and Company, Incorporated,	104,592	171	2	1	....	1	4	23.39	38.24	78	....	....	....	....	....	4	249	16.06	23.39
Spencer Coal Company,	93,699	134	....	....	....	....	....	.....	.....	73	....	1	....	....	1	1	207	4.83	10.67
Humbert Coal Company,	86,809	152	1	....	....	....	1	5.58	11.52	76	....	....	....	....	....	1	228	4.39	11.52
Wilkes-Barre Colliery Company,	68,678	124	1	....	....	....	1	8.06	14.56	39	....	....	....	....	....	1	163	6.13	14.56
E. S. Stackhouse Coal Company,	52,742	124	1	....	....	....	1	8.06	18.96	48	....	1	....	....	1	2	172	11.63	37.92
McCauley Coal Company,	51,929	31	1	....	....	....	1	32.25	19.26	16	....	....	....	....	....	1	47	21.28	19.26
East Lehigh Coal Company,	50,027	76	2	....	....	1	3	39.47	59.97	60	....	....	....	....	....	3	136	22.06	59.97
Port Carbon Coal Company,	45,889	66	1	....	....	....	1	15.15	21.79	25	....	....	....	....	....	1	91	10.99	21.79
Clearview Coal Company,	45,586	72	1	....	....	1	2	27.78	43.87	27	....	....	....	....	....	2	99	20.20	43.87
Pittston Coal Mining Company,	37,276	142	1	....	....	....	1	7.04	26.83	51	....	....	....	....	....	1	193	5.18	26.83
Alliance Coal Company,	36,080	218	....	....	....	4	4	18.35	111.02	92	....	1	....	....	1	5	310	16.13	138.77
Evans Colliery Company,	34,138	63	2	....	....	....	2	31.74	58.59	31	....	....	....	....	....	2	94	21.28	58.59
Oxford Coal Company,	22,792	.....	....	....	....	....	....	.....	.....	76	1	....	....	....	1	1	76	13.16	43.88
West Mountain Coal Company,	22,412	45	1	....	....	....	1	22.22	44.62	15	....	....	....	....	....	1	60	16.67	44.62
Wolf Coal Company,	7,286	9	....	1	....	1	2	222.22	274.49	4	....	....	....	....	....	2	13	153.84	274.49
Locust Mountain Coal Company,	2,800	60	....	....	....	....	....	.....	.....	390	....	....	....	1	1	1	450	2.22	357.14
Sacandaga Coal Company,	1,803	18	1	....	....	....	1	55.56	554.67	14	....	....	....	....	....	1	32	31.25	554.63

Digitized by Google

Table showing companies that had fatal accidents inside or outside their mines; causes of accidents, fatalities per 1,000 employes and per 1,000,000 tons produced, 1913

Companies	Production net tons	Employes inside	Causes of Fatal Accidents Inside				Total fatal accidents inside	Fatalities inside per 1,000 employes	Fatalities inside per 1,000,000 tons produced	Employes outside	Causes of Fatal Accidents Outside				Total fatal accidents outside	Grand total fatal accidents inside and outside	Grand total employes	Fatalities inside and outside per 1,000 employes	Fatalities inside and outside per 1,000,000 tons produced
			Falls	Cars	Gas	Miscellaneous causes					Cars	Machinery	Electricity	Miscellaneous causes					
Philadelphia and Reading Coal and Iron Company,	12,705,331	19,055	30	12	24	22	88	4.62	6.93	7,875	9	3	....	3	15	103	26,930	3.82	8.11
Delaware, Lackawanna and Western Railroad Company,	10,288,190	15,824	31	13	4	27	75	4.74	7.29	3,242	1	1	1	2	5	80	19,066	4.20	7.78
Lehigh Valley Coal Company,	9,056,567	11,215	27	11	1	20	59	5.26	6.51	3,876	3	1	....	2	6	65	15,091	4.31	7.18
Delaware and Hudson Company,	7,336,094	10,961	28	7	....	2	37	3.38	5.04	3,272	3	....	....	3	6	43	14,233	3.02	5.86
Lehigh and Wilkes-Barre Coal Company,	6,405,808	7,902	14	4	3	14	35	4.43	5.46	2,029	2	1	....	....	3	38	9,931	3.83	5.93
Pennsylvania Coal Company,	6,040,021	8,510	16	4	1	7	28	3.29	4.64	2,816	1	....	....	....	1	29	11,326	2.56	4.80
Lehigh Coal and Navigation Company,	4,843,508	6,009	3	3	4	13	23	3.83	4.75	2,531	5	....	....	1	6	29	8,540	3.40	5.99
Scranton Coal Company,	2,423,657	4,055	12	3	....	6	21	5.18	8.66	1,355	....	....	....	....	....	21	5,410	3.88	8.66
Susquehanna Coal Company,	2,247,021	2,907	9	2	3	1	15	5.16	6.68	1,374	....	....	....	....	....	15	4,281	3.50	6.68
Mineral Railroad and Mining Company,	2,238,029	3,730	5	3	1	4	13	3.49	5.81	1,489	2	....	....	....	2	15	5,219	2.87	6.70
Kingston Coal Company,	1,985,275	2,541	6	2	....	4	12	4.72	6.04	894	....	....	....	....	....	12	3,435	3.49	6.04
Hillside Coal and Iron Company,	1,727,768	2,692	5	....	....	5	10	3.71	5.79	946	....	....	....	....	....	10	3,638	2.75	5.79
Hudson Coal Company,	1,718,522	2,767	3	....	....	3	6	2.17	3.49	841	1	....	....	....	1	7	3,608	1.94	4.07
Coxe Brothers and Company, Incorporated,	1,636,341	1,442	1	1	....	1	3	2.08	1.83	783	....	....	....	2	2	5	2,225	2.25	3.06
G. B. Markle Company,	1,625,468	1,636	1	1	....	1	3	1.83	1.85	600	....	....	....	....	....	3	2,236	1.34	1.85
Summit Branch Mining Company,	1,060,270	1,687	2	....	2	1	5	2.96	4.72	763	....	....	....	....	....	5	2,450	2.04	4.72
Price-Pancoast Coal Company,	713,896	1,187	2	1	....	1	4	3.37	5.60	252	....	....	....	....	....	4	1,439	2.71	5.60
A. Pardee and Company,	656,981	1,019	1	1	....	....	2	1.96	3.04	505	1	....	....	....	1	3	1,524	1.97	4.57
Forty Fort Coal Company,	620,712	1,096	2	5	....	3	10	9.12	16.11	296	....	....	....	....	....	10	1,392	7.18	16.11
Sterrick Creek Coal Company,	503,583	812	3	....	....	....	3	3.69	5.96	180	....	....	....	....	....	3	992	3.02	5.96
C. M. Dodson and Company,	440,524	490	1	....	....	1	2	4.08	4.54	254	....	....	....	....	....	2	744	2.69	4.54
Lytle Coal Company,	433,524	594	2	....	1	....	3	5.05	6.92	239	1	....	....	....	1	4	833	4.80	9.23
Mt. Lookout Coal Company,	420,922	621	4	....	....	1	5	8.05	11.88	146	....	....	....	....	....	5	767	6.52	11.88
Lackawanna Coal Company, Limited,	384,842	679	2	1	....	....	3	4.42	7.80	174	....	....	....	....	....	3	853	3.52	7.80
Pine Hill Coal Company,	383,229	549	1	1	....	....	2	3.70	5.22	191	....	....	....	....	....	2	731	2.74	5.22
Plymouth Coal Company,	383,254	618	1	....	....	2	3	4.85	7.83	248	....	....	....	....	....	3	866	3.46	7.83

Digitized by Google

St. Clair Coal Company,	373,180	394	1	....	....	1	2	4.08	5.29	316	....	....	....	....	....	2	710	2.82	5.29
Hazleigh Brookwood Coal Company,	345,686	427	5	1	....	1	7	16.39	20.25	352	....	....	....	....	....	7	779	8.99	20.25
Mt. Jessup Coal Company, Limited,	344,046	511	....	....	....	1	1	1.96	2.91	296	....	1	....	....	1	2	807	2.48	5.81
Aldon Coal Company,	337,666	500	1	....	....	1	2	3.57	5.92	177	....	....	....	....	....	2	737	2.71	5.92
Thomas Colliery Company,	322,683	278	....	....	....	1	1	3.60	3.10	213	....	....	....	....	....	1	491	2.04	3.10
Estate A. S. Van Wickle,	318,946	405	1	....	....	....	1	2.47	3.14	215	1	....	....	....	1	2	620	3.23	6.27
Oak Hill Coal Company,	306,278	503	1	....	1	....	2	3.98	6.49	222	....	....	....	....	....	2	725	2.76	6.49
Colonial Collieries Company,	299,852	409	....	1	....	1	2	4.89	6.67	211	....	....	....	....	....	2	620	3.23	4.89
Greenough Red Ash Coal Company,	297,447	385	3	1	....	....	4	10.39	13.45	235	....	....	....	....	....	4	620	6.45	13.45
Moosic Mountain Coal Company,	281,251	407	2	....	....	....	2	4.91	7.11	80	2	....	....	....	2	4	487	8.21	14.22
Wilkes-Barre Anthracite Coal Company,	264,188	324	....	1	....	2	3	9.26	11.86	87	....	....	....	....	....	3	411	7.30	11.86
Red Ash Coal Company,	254,270	349	1	....	....	....	1	2.87	3.93	312	1	....	....	1	2	3	661	4.54	11.80
Excelsior Coal Company,	253,998	443	2	....	....	....	2	4.51	7.87	106	....	....	....	....	....	2	549	3.64	7.87
Buck Run Coal Company,	241,704	332	....	....	....	2	2	6.02	8.27	138	....	....	....	....	....	2	470	4.26	8.27
Elliott McClure and Company,	238,434	523	5	....	....	1	6	11.47	25.16	123	....	....	....	....	....	6	646	9.29	25.16
Northwest Coal Company,	210,322	268	1	....	....	....	1	3.73	4.75	89	2	....	....	....	2	3	357	8.40	14.26
East Boston Coal Company,	208,644	320	2	....	....	1	3	9.37	14.38	153	....	....	....	....	....	3	473	6.34	14.38
Shipman Coal Company,	195,026	272	1	....	....	....	1	3.68	5.13	159	....	....	....	....	....	1	431	2.32	5.13
Enterprise Coal Company,	194,524	326	....	....	....	1	1	3.07	5.14	162	....	....	....	1	1	2	488	4.10	10.28
Northern Anthracite Coal Company,	190,174	193	....	1	....	....	1	5.18	5.26	101	....	1	....	....	1	2	294	6.80	10.52
Thorne-Neale Washery Company,	169,340	.....	....	....	....	....	....	.....	.....	50	....	1	....	....	1	1	50	20.00	5.91
J. S. Wentz and Company,	159,331	150	1	....	....	....	1	6.67	6.28	123	....	....	....	....	....	1	273	3.66	6.28
Peoples Coal Co.,	155,240	323	....	....	2	....	2	6.19	12.88	100	....	....	....	....	....	2	423	4.73	12.88
Raub Coal Company,	144,482	281	1	2	....	....	3	10.68	20.76	135	....	....	....	....	....	3	416	7.21	20.76
Buck Ridge Coal Mining Company,	129,099	275	....	....	1	1	2	7.27	15.49	69	....	....	....	....	....	2	344	5.81	15.49
Archbald Coal Company,	128,302	230	1	1	....	....	2	8.70	15.59	80	....	....	....	....	....	2	310	6.45	15.59
Delph Coal Company, Limited,	126,800	299	1	1	....	....	2	6.69	15.77	145	....	....	....	....	....	2	444	4.50	15.77
Trevorton Colliery Company,	125,621	274	....	....	....	....	....	.....	.....	66	1	....	....	....	1	1	340	2.94	7.96
George F. Lee Coal Company,	125,234	187	....	....	....	1	1	5.35	7.98	63	....	....	....	....	....	1	250	4.00	7.98
Traders Coal Company,	117,049	282	2	....	....	....	2	7.09	17.09	69	....	....	....	....	....	2	351	5.70	17.09
Darkwater Coal Company,	116,479	113	....	....	....	....	....	.....	.....	90	....	....	....	1	1	1	203	4.93	8.59
M. S. Kemmerer and Company,	110,803	143	1	....	....	....	1	6.99	9.03	101	....	....	....	....	....	1	244	4.10	9.03
Hazle Mountain Coal Company,	108,851	160	1	....	....	....	1	6.25	9.19	85	....	....	....	....	....	1	245	4.08	9.19
Rissinger Brothers and Company, Incorporated,	104,592	171	2	1	....	1	4	23.39	38.24	78	....	....	....	....	....	4	249	16.06	23.39
Spencer Coal Company,	93,699	134	....	....	....	....	....	.....	.....	73	....	1	....	....	1	1	207	4.83	10.67
Humbert Coal Company,	86,809	152	1	....	....	....	1	5.58	11.52	76	....	....	....	....	....	1	228	4.39	11.52
Wilkes-Barre Colliery Company,	68,678	124	1	....	....	....	1	8.06	14.56	39	....	....	....	....	....	1	163	6.13	14.56
E. S. Stackhouse Coal Company,	52,742	124	1	....	....	....	1	8.06	18.96	48	....	1	....	....	1	2	172	11.63	37.92
McCauley Coal Company,	51,929	31	1	....	....	....	1	32.25	19.26	16	....	....	....	....	....	1	47	21.28	19.26
East Lehigh Coal Company,	50,027	76	2	....	....	1	3	39.47	59.97	60	....	....	....	....	....	3	136	22.06	59.97
Port Carbon Coal Company,	45,889	66	1	....	....	....	1	15.15	21.79	25	....	....	....	....	....	1	91	10.99	21.79
Clearview Coal Company,	45,586	72	1	....	....	1	2	27.78	43.87	27	....	....	....	....	....	2	99	20.20	43.87
Pittston Coal Mining Company,	37,276	142	1	....	....	....	1	7.04	26.83	51	....	....	....	....	....	1	193	5.18	26.83
Alliance Coal Company,	36,030	218	....	....	....	4	4	18.35	111.02	92	....	1	....	....	1	5	310	16.13	138.77
Evans Colliery Company,	34,138	63	2	....	....	....	2	31.74	58.59	31	....	....	....	....	....	2	94	21.28	58.59
Oxford Coal Company,	22,792	.....	....	....	....	....	....	.....	.....	76	1	....	....	....	1	1	76	13.16	43.88
West Mountain Coal Company,	22,412	45	1	....	....	....	1	22.22	44.62	15	....	....	....	....	....	1	60	16.67	44.62
Wolf Coal Company,	7,286	9	....	1	....	1	2	222.22	274.49	4	....	....	....	....	....	2	13	153.84	274.49
Locust Mountain Coal Company,	2,800	60	....	....	....	....	....	.....	.....	390	....	....	....	1	1	1	450	2.22	357.14
Sacandaga Coal Company,	1,803	18	1	....	....	....	1	55.56	554.63	14	....	....	....	....	....	1	32	31.25	554.63

Digitized by Google

Table showing number of employees under 16 and 21 years, and number of employees under 16 and 21 years, Mr. inclusive

Districts	Inside Employees			Outside Employees			Grand total
	Under 16 years	Under 21 years	Total	Under 16 years	Under 21 years	Total	
First,	1	1	1	1	1	1	1
Second,	1	1	1	1	1	1	1
Third,	1	1	1	1	1	1	1
Fourth,	1	1	1	1	1	1	1
Fifth,	1	1	1	1	1	1	1
Sixth,	1	1	1	1	1	1	1
Seventh,	1	1	1	1	1	1	1
Eighth,	1	1	1	1	1	1	1
Ninth,	1	1	1	1	1	1	1
Tenth,	1	1	1	1	1	1	1
Eleventh,	1	1	1	1	1	1	1
Twelfth,	1	1	1	1	1	1	1
Thirteenth,	1	1	1	1	1	1	1
Fourteenth,	1	1	1	1	1	1	1
Fifteenth,	1	1	1	1	1	1	1
Sixteenth,	1	1	1	1	1	1	1
Seventeenth,	1	1	1	1	1	1	1
Eighteenth,	1	1	1	1	1	1	1
Nineteenth,	1	1	1	1	1	1	1
Twentieth,	1	1	1	1	1	1	1
Twenty-first,	1	1	1	1	1	1	1
Totals,	9	13	15	13	13	13	175,319

TABLE 1 - Number of minor children killed inside and outside the mines, 1913

Districts	Inside						Outside							Grand totals inside and outside
	Boys 20 years	Boys 19 years	Boys 18 years	Boys 17 years	Boys 16 years	Totals	Boys 20 years	Boys 19 years	Boys 18 years	Boys 17 years	Boys 16 years	Boys 15 years	Boys 14 years	Totals	
First,	1	1	2	....	1	5	....	....	....	1	....	....	....	1	6
Second,	1	2	....	....	1	4	....	....	....	....	....	....	....	....	4
Third,	....	....	1	1	....	2	....	....	....	....	....	....	....	....	2
Fourth,	....	....	....	....	....	....	....	....	....	....	....	....	1	1	1
Fifth,	1	....	....	1	....	2	....	....	....	....	....	....	....	....	2
Sixth,	1	....	....	....	....	1	....	....	....	....	....	....	....	....	1
Seventh,	1	....	....	1	....	2	....	1	....	....	....	....	....	1	3
Eighth,	1	2	3	1	....	7	....	....	....	....	....	....	....	....	7
Ninth,	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Tenth,	1	....	1	1	....	3	1	....	....	....	....	....	....	1	4
Eleventh,	1	....	....	....	....	1	....	....	....	....	....	....	....	....	1
Twelfth,	....	2	....	....	....	2	....	2	1	....	....	....	....	3	5
Thirteenth,	1	....	2	....	....	3	....	....	....	....	....	1	....	1	4
Fourteenth,	....	2	....	....	....	2	....	....	2	....	....	....	....	2	4
Fifteenth,	....	....	1	1	....	2	....	....	....	1	....	....	....	1	3
Sixteenth,	....	....	1	....	....	1	....	1	....	....	....	....	....	1	2
Seventeenth,	....	1	2	....	....	3	....	....	....	....	....	....	....	....	3
Eighteenth,	....	2	....	....	....	2	....	....	....	....	....	....	....	....	2
Nineteenth,	....	....	....	....	....	....	....	....	....	....	....	....	1	1	1
Twentieth,	1	....	....	....	....	1	....	....	....	....	1	....	....	1	2
Twenty-first,	....	1	2	....	....	3	1	....	1	....	1	....	....	3	6
Totals,	10	11	10	6	2	46	2	4	4	2	2	1	2	17	63

Digitized by Google

TABLE 2.—Fatal accidents inside the mines, production, employes, fatalities per 1,000 employes, production per fatality, fatalities per 1,000,000 tons produced, by counties, 1913

Counties	Fatal Accidents Inside					Production in tons of 2,000 pounds	Employes inside	Lives lost inside per 1,000 employes	Tons of coal produced per life lost inside	Lives lost inside per 1,000,000 tons produced
	By falls	By cars	By explosions of gas	By miscellaneous causes	Totals					
Luzerne,	107	34	10	60	211	36,326,287	47,943	4.40	172,162	5.81
Lackawanna,	83	22	4	31	140	21,836,671	34,285	4.08	155,976	6.41
Schuylkill,	43	17	29	45	134	19,511,483	26,768	5.01	145,608	6.87
Northumberland,	20	8	2	15	45	7,012,687	10,836	4.15	156,837	6.42
Totals,	253	81	45	151	530	84,687,128	119,832	4.42	159,787	6.26
Carbon,	5	1	3	6	15	3,353,277	3,930	3.82	223,552	4.47
Columbia,	.....	1	.....	3	4	1,214,648	1,393	2.87	303,662	3.29
Dauphin,	2	2	.....	1	5	1,060,270	1,687	2.96	212,054	4.72
Sullivan,	.....	1	.....	.....	1	664,063	706	1.42	664,063	1.51
Susquehanna,	1	.....	.....	1	2	594,764	1,096	1.82	297,382	3.36
Wayne,	.....	.....	.....	.....	.....	52,814	23	.....	.....	.....
Totals,	8	5	3	11	27	6,939,836	8,835	3.06	257,031	3.88
Grand totals and averages,	261	86	48	162	557	91,626,964	128,667	4.33	164,501	6.08

Digitized by Google

TABLE 5—Fatal accidents, production, employes, fatalities inside per 1,000 employes, fatalities inside per 1,000,000 tons produced, by counties and districts, 1913

Counties and Districts	Employes inside	Production	Falls	Cars	Gas	Explosives	Blasts	Electricity	Falling into shafts, slopes, etc.	Machinery	Miscellaneous causes	Total fatal accidents inside	Fatalities inside per 1,000 employes	Fatalities inside per 1,000,000 tons produced	Employes outside	Fatal accidents outside	Total fatal accidents	Total employes	Fatalities inside and outside per 1,000 employes
Lackawanna, Susquehanna, Wayne and Sullivan—																			
First,																			
Second,																			
Third,																			
Fourth,																			
Fifth,																			
Sixth,																			
Seventh,																			
Eighth,																			
Ninth,																			
Tenth,																			
Eleventh,																			
Twenty-first,																			
Totals and averages,	84,063	59,484,832	191	57	14	9	50		9	3	22	354	4.21	5.95	26,276	30	384	110,339	3.48
Carbon, Schuylkill, Columbia, Northumberland and Dauphin:—																			
Twelfth,	4,906	2,553,473	11	5	3		3				4	26	5.30	10.19	2,108	7	33	7,009	4.71
Thirteenth,	4,164	2,085,110	10	4							4	18	4.32	8.63	2,715		20	6,879	2.91
Fourteenth,	4,166	2,799,218	9	6			1				5	21	5.04	7.50	2,488		21	6,654	3.16
Fifteenth,	6,286	3,256,254	8	8			1				6	23	3.66	7.06	1,189		23	7,475	3.08
Sixteenth,	6,088	3,401,684	10	8	1	1	3		1		1	25	4.11	7.35	1,177		25	7,265	3.44
Seventeenth,	6,713	3,491,308	6	8	4			1	1		7	27	4.02	7.73	2,173	1	28	8,886	3.15
Eighteenth,	4,180	2,125,049	10	4			4				7	25	5.98	11.76	1,911	1	26	6,511	4.14
Nineteenth,	6,289	3,665,404	7	1	2		1		1		8	20	3.18	5.45	1,896		20	7,185	2.78
Twentieth,	4,819	2,706,844	6	2	2		2		1		2	15	3.11	5.54	1,894		15	6,044	2.48
Totals and averages,	44,614	29,148,068	70	39	14	1	15		3		44	210	4.70	7.20	20,227	9	219	64,981	3.37
Grand totals and averages,	128,677	91,632,900	261	96	28	10	65	1	12	3	66	564	4.38	6.16	46,503	39	603	175,320	3.44

Digitized by Google

TABLE 6.—Fatal accidents, production, employes, fatalities inside per 1,000 employes, fatalities inside per 1,000,000 tons produced, by years, 1899—1913, inclusive

Years	Employes inside	Production net tons	Falls	Cars	Gas	Explosives	Blasts	Electricity	Falling into shafts and slopes, etc.	Machinery	Miscellaneous causes	Total fatal accidents inside	Fatalities inside per 1,000 employes	Fatalities inside per 1,000,000 tons produced	Employes outside	Fatal accidents outside	Total fatal accidents	Total employes	Fatalities inside and outside per 1,000 employes
1899,	92,167	60,518,331	226	51	28	11	27	....	16	....	30	389	4.22	6.43	48,497	72	461	140,604	3.28
1900,	94,140	57,363,396	175	60	33	14	29	....	19	....	23	353	3.90	6.24	49,684	53	411	143,824	2.86
1901,	98,484	67,094,665	226	69	33	15	36	....	24	....	33	441	4.48	6.57	49,217	72	513	147,651	3.47
1902,	96,977	41,340,985	116	43	30	19	13	....	13	....	22	245	2.49	5.93	49,762	55	300	146,139	2.03
1903,	104,565	75,282,585	210	70	26	17	38	1	31	....	33	426	4.17	5.66	49,772	92	518	151,337	3.41
1904,	110,362	78,594,869	238	71	30	25	34	....	26	....	32	496	4.49	6.74	50,968	99	595	161,330	3.69
1905,	116,371	78,647,020	295	83	33	16	44	2	43	....	26	561	4.73	7.01	51,883	83	644	168,254	3.83
1906,	114,998	72,189,510	214	67	43	28	53	....	20	2	29	456	3.97	6.32	51,177	101	557	166,175	3.35
1907,	117,849	86,056,412	279	88	44	17	70	3	25	2	73	601	5.10	6.98	50,925	107	708	168,774	4.20
1908,	124,223	83,543,243	284	80	57	21	69	1	23	1	49	586	4.79	7.13	50,270	82	668	174,502	3.88
1909,	123,272	80,223,833	254	71	28	23	47	6	18	1	43	490	3.96	6.11	47,923	77	567	171,195	3.31
1910,	121,542	83,683,984	253	92	20	23	60	6	19	2	28	509	4.19	6.06	46,633	92	601	168,175	3.57
1911,	126,087	90,917,176	253	93	34	21	67	2	21	4	121	615	4.88	6.76	47,301	84	699	173,388	4.08
1912,	127,807	84,426,869	246	78	35	25	51	5	13	....	40	498	3.90	5.90	47,291	103	601	175,098	3.48
1913,	128,667	91,625,964	261	86	48	11	62	1	30	2	56	567	4.33	6.08	46,643	67	634	175,310	3.56
Totals and averages,	1,696,311	1,126,409,302	3,530	1,109	517	296	700	24	345	14	698	7,229	4.26	6.42	737,386	1,249	8,477	2,434,197	3.48

Digitized by Google

TABLE 8.—Continued

Years	Counties	Number of mines	Number of inside employes	Production in tons of 2,000 pounds	Fatal accidents by falls	Fatal accidents by explosions of gas	Total fatal accidents inside	Production in tons per fatal accident inside	Lives lost per 1,000,000 tons produced
1899	Carbon,	11	2,025	1,826,357	2	.....	10	182,627	5.48
1900		11	2,052	1,863,937	1	.....	3	621,212	1.61
1901		10	2,265	1,858,519	3	.....	10	185,852	5.38
1902		10	2,242	1,104,462	1	.....	4	276,116	3.62
1903		15	2,120	2,150,021	2	.....	13	165,386	6.05
1904		20	2,381	2,253,512	2	.....	7	321,930	2.11
1905		23	2,460	2,476,406	.....	.....	9	275,156	3.63
1906		23	2,740	2,240,823	2	1	6	374,470	2.67
1907		30	2,969	2,762,528	3	1	14	197,323	5.07
1908		22	3,531	2,784,946	4	.....	9	309,438	3.23
1909		28	3,492	2,652,997	3	1	16	165,812	6.03
1910		33	3,575	3,214,169	3	1	15	214,274	4.67
1911		31	3,607	3,312,483	6	1	18	184,027	5.43
1912		24	4,063	2,843,976	1	.....	8	355,484	2.81
1913		29	3,930	3,353,277	5	3	15	223,552	4.47
	Totals and averages, ..	.....	43,492	36,708,918	38	8	157	233,783	4.28
1899	Columbia,	6	1,346	1,002,469	2	.....	5	200,494	4.99
1900		7	1,163	980,721	3	.....	5	196,144	5.10
1901		5	714	1,209,859	2	.....	4	302,465	3.31
1902		6	1,438	738,070	.....	.....	3	246,023	4.06
1903		5	1,454	1,353,904	.....	.....	3	451,301	2.22
1904		10	1,419	1,151,624	7	.....	10	115,162	8.68
1905		9	1,567	1,229,697	2	.....	7	175,671	5.69
1906		7	1,403	969,065	3	1	7	138,438	7.22
1907		8	1,468	1,188,268	1	.....	4	297,067	3.37
1908		9	1,559	1,182,326	2	.....	5	236,465	4.22
1909		8	1,568	1,093,102	1	.....	2	546,551	1.83
1910		11	1,176	960,145	1	.....	1	960,145	1.04
1911		7	1,473	1,193,736	1	.....	1	193,736	.84
1912		11	1,440	1,214,527	3	.....	6	202,421	4.94
1913		11	1,393	1,214,648	.....	.....	4	303,662	3.29
	Totals and averages, ..	.....	20,581	16,682,162	28	1	67	248,987	4.02
1899	Dauphin,	2	1,583	817,328	1	.....	3	102,166	9.79
1900		2	1,606	779,135	2	1	3	97,392	10.27
1901		2	1,562	830,572	3	.....	7	118,653	8.43
1902		2	1,120	423,341	.....	.....	1	423,341	2.36
1903		2	1,256	732,970	3	.....	5	146,594	6.82
1904		9	1,269	723,414	.....	1	*11	65,765	15.21
1905		10	1,350	728,126	1	1	5	144,625	6.91
1906		10	1,422	734,723	3	.....	3	244,908	4.08
1907		12	1,393	829,980	2	.....	5	165,996	6.02
1908		12	1,481	848,005	1	.....	9	94,223	10.61
1909		12	1,419	932,393	1	.....	2	416,197	2.15
1910		11	1,446	886,192	1	.....	8	110,774	9.03
1911		11	1,530	946,963	4	1	10	94,696	10.56
1912		10	1,606	945,102	.....	1	3	315,034	3.17
1913		13	1,687	1,060,270	2	.....	5	212,054	4.72
	Totals and averages, ..	.....	21,732	12,213,514	24	5	90	135,706	7.37
1899	Susquehanna,	2	941	699,020	.....	.....	.....	.....	.....
1900		2	904	556,003	.....	.....	.....	.....	.....
1901		2	1,104	743,105	.....	.....	.....	.....	.....
1902		2	1,066	452,758	2	.....	2	226,378	4.42
1903		2	1,064	800,773	4	.....	6	133,462	7.49
1904		2	1,102	692,440	2	.....	6	115,407	8.67
1905		2	1,026	680,146	6	.....	6	113,358	8.82
1906		3	1,028	562,108	2	.....	6	93,684	10.67
1907		3	970	644,068	4	.....	12	53,674	18.63
1908		1	1,005	487,900	2	.....	2	243,950	4.10
1909		2	953	589,835	2	.....	3	196,612	5.09
1910		2	971	623,808	4	.....	4	157,202	6.36
1911		3	962	672,600	.....	.....	1	672,600	1.49
1912		3	1,044	582,510	3	.....	7	83,216	12.02
1913		3	1,096	594,764	1	.....	2	297,382	3.36
	Totals and averages, ..	.....	15,256	9,386,853	32	.....	57	164,682	6.07

*town disaster.

Digitized by Google

TABLE 8.—Continued

Years	Counties	Number of mines	Number of inside employes	Production in tons of 2,000 pounds	Fatal accidents by falls	Fatal accidents by explosions of gas	Total fatal accidents inside	Production in tons per fatal accident inside	Lives lost per 1,000,000 tons produced
1899	Sullivan,	2	322	183,182	1	.....	1	183,182	5.46
1900		2	337	235,112	3	.....	3	78,371	12.76
1901		2	281	152,506	.....	.....	.....	.....	.....
1902		3	523	409,017	3	.....	5	81,803	12.23
1903		3	455	293,442	2	.....	2	146,721	6.82
1904		3	443	294,305	1	.....	1	294,305	3.40
1905		4	331	310,496	1	.....	2	155,248	6.44
1906		4	414	358,627	1	.....	2	179,313	5.58
1907		4	459	433,101	1	.....	1	433,101	2.31
1908		4	583	550,712	2	.....	2	275,356	3.63
1909		4	661	641,216	2	.....	2	320,608	3.12
1910		4	614	632,874	.....	.....	1	632,874	1.58
1911		4	682	717,429	2	.....	4	179,357	5.60
1912		4	677	649,225	.....	.....	.....	.....	.....
1913		4	706	664,063	.....	.....	1	664,063	1.51
	Totals and averages, ..	.....	7,468	6,505,316	19	.....	27	240,938	4.15
1899	Wayne,	1	353	309,069	.....	.....	.....	.....	.....
1900		1	11	21,862	.....	.....	.....	.....	.....
1901		1	589	369,462	.....	.....	.....	.....	.....
1902		.....	.....	.....	.....	.....	.....	.....	.....
1903		1	125	68,395	.....	.....	.....	.....	.....
1904		1	125	71,358	.....	.....	.....	.....	.....
1905		1	126	67,008	.....	.....	.....	.....	.....
1906		3	202	71,331	.....	.....	.....	.....	.....
1907		3	270	85,594	.....	.....	.....	.....	.....
1908		2	212	63,906	.....	.....	.....	.....	.....
1909		2	184	50,339	.....	.....	.....	.....	.....
1910		2	125	51,576	.....	.....	.....	.....	.....
1911		2	84	70,150	1	.....	1	70,150	14.26
1912		2	129	92,843	.....	.....	.....	.....	.....
1913		1	23	53,814	.....	.....	.....	.....	.....
	Totals and averages, ..	.....	2,568	1,446,252	1	.....	1	1,446,252	.69

Digitized by Google

TABLE 11.—Comparison of production and fatal accidents inside, 1909-1913, inclusive

Names of Companies	1909		1910		1911		1912		1913		Total production in tons of 2,000 pounds	Total number of fatal accidents inside	Number of tons produced per life lost	Fatal accidents per 1,000,000 tons produced
	Production in tons of 2,000 pounds	Number of fatal accidents inside	Production in tons of 2,000 pounds	Number of fatal accidents inside	Production in tons of 2,000 pounds	Number of fatal accidents inside	Production in tons of 2,000 pounds	Number of fatal accidents inside	Production in tons of 2,000 pounds	Number of fatal accidents inside				
Philadelphia and Reading Coal and Iron Co.,	11,256,043	66	11,063,293	61	12,368,179	62	12,354,472	71	12,705,331	88	59,747,318	348	171,688	5.82
Delaware, Lackawanna and Western Railroad Co.,	9,246,954	59	9,426,290	62	9,840,388	56	9,532,400	59	10,288,190	75	48,334,222	311	155,415	6.43
Lehigh Valley Coal Co.,	6,255,528	37	7,436,690	45	9,000,559	44	8,188,891	54	9,056,567	59	39,938,235	239	167,106	5.98
Delaware and Hudson Co.,	6,117,629	25	6,608,516	36	6,746,076	53	5,923,324	34	7,336,094	37	32,731,639	185	176,928	5.65
Pennsylvania Coal Co.,	5,413,452	46	5,618,507	41	6,101,405	36	5,448,795	34	6,040,021	28	28,622,180	187	153,060	6.53
Lehigh and Wilkes-Barre Coal Co.,	4,776,283	29	4,944,809	48	5,524,611	39	5,407,438	36	6,405,808	35	27,058,949	187	144,700	6.91
Lehigh Coal and Navigation Co.,	3,370,889	20	4,148,468	22	4,539,724	22	4,114,818	15	4,843,508	23	21,017,407	102	206,052	4.85
Totals and averages,	46,436,778	282	49,246,573	315	54,120,942	314	50,970,138	308	56,675,519	345	57,449,950	1,569	165,128	6.06
Scranton Coal Co.,	2,623,614	24	2,651,731	18	2,342,864	23	2,196,311	20	2,423,657	21	12,243,177	106	115,502	8.66
Kingston Coal Co.,	2,281,692	15	2,509,023	6	2,481,464	13	2,168,780	14	1,965,275	12	11,426,249	60	190,437	5.24
Mineral Railroad and Mining Co.,	1,770,194	24	1,791,606	12	2,019,648	18	1,991,882	10	2,238,029	13	9,811,359	77	127,420	7.85
Susquehanna Coal Co.,	1,745,593	13	1,808,173	11	1,902,020	10	1,979,162	11	2,247,021	15	9,676,969	60	161,283	6.20
Hudson Coal Co.,	1,410,354	8	1,707,611	8	2,410,880	14	2,266,070	15	1,718,522	6	9,513,437	51	186,538	5.36
Hillside Coal and Iron Co.,	1,483,108	8	1,585,109	8	2,014,960	8	1,627,797	9	1,727,768	10	8,438,737	42	196,250	5.10
Coxe Brothers and Co., Incorporated,	1,154,275	5	1,371,570	7	1,644,965	7	1,515,372	1	1,636,341	3	7,322,523	23	318,371	3.14
G. B. Markle Co.,	1,256,820	8	1,214,764	7	1,364,955	6	1,242,604	6	1,625,468	3	6,704,611	30	223,487	4.47
Totals and averages,	13,730,645	105	14,634,602	77	16,181,756	99	14,987,978	86	15,602,081	83	75,137,062	450	166,971	6.00
Summit Branch Mining Co.,	982,393	2	886,192	3	946,963	10	945,102	2	1,060,270	5	4,770,920	22	170,290	5.87
Price-Pancoast Coal Co.,	785,267	6	800,416	4	761,120	30	655,179	4	713,896	4	3,715,878	98	37,917	26.37
West End Coal Co.,	696,571	5	785,832	7	846,187	2	597,588	3	707,006	.....	3,582,185	22	155,747	6.42
Jermyn and Co.,	254,701	6	725,134	3	741,867	7	562,818	2	568,534	.....	2,412,554	22	148,272	6.74

Digitized by Google

Pardee Brothers and Co.,	580,366	3	708,957	1	755,284	.....	633,322	3	714,068	.....	3,386,997	7	483,857	2.07
A. Pardee and Co.,	613,467	2	578,135	4	684,696	1	584,083	3	656,989	2	3,117,372	11	283,397	3.53
Temple Iron Co.,	1,967,740	15	1,016,297	11	*	.....	*	.....	*	.....	2,984,037	26	114,771	8.71
St. Clair Coal Co.,	477,780	1	495,324	3	439,807	.....	431,021	1	378,180	2	2,222,612	7	317,516	3.15
Lytle Coal Co.,	356,122	2	387,819	1	382,783	5	379,050	3	433,524	3	1,939,298	13	149,177	6.70
Forty Fort Coal Co.,	†	.....	†	.....	724,123	4	591,242	3	620,712	10	1,936,077	17	113,887	8.63
Plymouth Coal Co.,	403,530	4	387,474	4	396,600	1	361,097	3	383,254	3	1,931,955	15	128,797	7.76
Totals and averages,	7,667,987	46	6,717,081	51	6,638,432	111	5,740,002	31	6,236,433	29	32,999,885	288	123,134	8.12
Midvalley Coal Co.,	359,482	1	396,383	.....	424,079	1	335,238	2	341,451	.....	1,876,633	4	469,158	2.13
C. M. Dodson and Co.,	251,944	2	361,905	.....	409,282	4	393,960	1	440,524	2	1,857,615	9	206,402	4.84
Lackawanna Coal Co., Limited,	†	.....	549,046	3	540,175	5	368,349	3	334,842	3	1,842,412	14	131,601	7.60
Parrish Coal Co.,	451,012	3	486,378	9	370,087	4	521,964	9	‡	.....	1,829,941	25	73,198	13.66
Thomas Colliery Co.,	382,576	1	355,242	1	391,488	5	367,615	1	322,683	1	1,819,604	9	202,178	4.95
Sterrick Creek Coal Co.,	†	.....	79,981	.....	633,043	3	514,115	4	503,532	3	1,730,722	10	173,072	5.78
Pine Hill Coal Co.,	294,643	1	336,478	.....	374,777	1	311,797	2	383,329	2	1,701,024	6	283,504	3.53
Estate A. S. Van Wickle,	368,012	2	354,328	1	348,164	2	281,866	1	318,946	1	1,674,316	7	239,188	4.18
Alden Coal Co.,	310,583	.....	325,509	2	328,573	.....	298,757	.....	337,666	2	1,601,088	4	400,272	2.50
Oak Hill Coal Co.,	270,717	.....	286,080	.....	363,149	7	293,619	3	308,278	2	1,521,843	17	89,520	11.17
Excelsior Coal Co.,	282,197	.....	299,163	1	319,511	3	295,998	2	253,998	2	1,450,867	8	181,358	5.51
Elliott McClure and Co.,	336,984	1	285,149	4	308,159	2	277,153	3	238,434	6	1,440,879	16	90,055	11.10
Maryd Coal Co.,	232,260	.....	285,080	1	274,541	2	276,898	.....	351,906	.....	1,420,685	3	473,562	2.11
Greenough Red Ash Coal Co.,	262,025	.....	277,329	3	298,081	1	273,955	1	297,447	4	1,408,847	9	156,539	6.39
Totals and averages,	3,802,435	11	4,678,561	25	5,378,109	40	4,834,284	37	4,483,087	28	23,176,476	141	164,372	6.08
Dodson Coal Co.,	253,015	1	289,365	1	271,333	.....	248,235	3	324,637	.....	1,387,135	5	277,427	3.60
Mt. Jessup Coal Co.,	188,626	1	248,365	1	302,302	1	269,107	.....	344,046	1	1,352,446	4	338,112	2.96
Colonial Collieries Co.,	224,934	3	267,583	2	193,583	.....	365,546	2	299,352	2	1,351,498	9	150,166	6.66
Red Ash Coal Co.,	251,934	1	241,834	2	244,688	2	274,202	1	254,270	1	1,266,928	7	180,790	5.53
Harwood Coal Co.,	274,859	1	230,093	.....	298,404	1	246,934	.....	197,561	.....	1,247,851	2	623,926	1.60
Buck Run Coal Co.,	196,847	1	264,904	.....	261,815	.....	230,573	2	241,704	2	1,195,843	5	239,069	4.18
Mill Creek Coal Co.,	648,645	5	143,894	2	153,253	2	115,325	.....	122,465	.....	1,183,582	9	131,509	7.60
Mt. Lookout Coal Co.,	†	.....	†	.....	387,993	7	319,840	3	420,922	5	1,128,755	15	75,250	13.29
Enterprise Coal Co.,	135,996	1	245,184	.....	271,797	2	245,737	.....	194,524	1	1,093,238	4	273,310	3.66
Moosic Mountain Coal Co.,	150,382	1	190,555	1	229,976	1	225,278	2	281,351	2	1,077,542	7	153,935	6.50
Shipman Koal Co.,	175,803	2	245,720	3	254,913	1	192,026	1	195,026	1	1,063,488	8	132,936	7.52
Northwest Coal Co.,	213,580	1	188,688	1	221,503	1	199,246	.....	210,322	1	1,033,339	4	258,335	3.87
Totals and averages,	2,714,621	18	2,556,685	13	3,091,060	18	2,932,099	14	3,086,680	16	14,281,145	79	182,040	5.49
Northern Anthracite Coal Co.,	174,298	2	166,499	1	199,194	3	225,654	.....	190,174	1	955,819	7	136,540	7.32
Upper Lehigh Coal Co.,	226,252	.....	204,791	2	172,401	.....	154,679	.....	192,091	.....	950,214	2	475,107	2.10
East Boston Coal Co.,	213,200	2	246,558	.....	185,665	2	89,536	.....	208,644	3	943,603	7	134,800	7.42
Girard Mammoth Coal Co.,	102,545	.....	177,349	.....	235,010	1	125,178	1	238,287	.....	878,369	2	439,185	2.28
Dolph Coal Co., Limited,	193,322	.....	191,953	.....	186,944	.....	142,587	.....	126,800	2	841,606	2	420,803	2.38
Peoples Coal Co.,	192,526	5	125,729	2	137,086	2	188,091	2	155,240	2	798,672	13	61,436	16.28
Lentz Coal Co.,	304,499	.....	480,202	2	§	.....	§	.....	§	.....	784,701	2	392,350	2.55

*Now Forty Fort Coal Co. and Mt. Lookout Coal Co. †Operated by Temple Iron Co. ‡Now Lehigh and Wilkes-Barre Coal Co. §Operated by Lehigh Valley Coal Co.

Digitized by Google

TABLE AA—Part 1—Number of net tons of coal mined, number of days worked, number of persons employed, number of fatal and non-fatal accidents, quantity of explosives used, etc., 1899-1913, inclusive

Districts.	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production in tons of 2,000 pounds	Average number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives: Number of pounds of powder used	Explosives: Number of pounds of dynamite used	Explosives: Number of pounds of permissible explosives used	Number of horses and mules
First,	3,790,466	418,601	43,146	4,258,213	239	8,413	28	96	3,266,375	784,138	26,679	553
Second,	3,676,555	431,193	96,152	4,203,200	223	9,111	46	51	4,460,225	430,924	49,807	769
Third,	3,119,342	242,173	111,845	3,673,360	212	7,626	22	45	3,909,425	139,606	38,434	731
Fourth,	4,267,379	158,368	161,077	4,584,804	236	8,446	25	82	4,362,576	340,225	.....	672
Fifth,	3,321,675	278,879	48,316	3,647,850	213	6,791	20	48	3,341,750	136,334	80,041	459
Sixth,	5,122,836	517,499	54,043	6,194,368	261	12,108	36	81	5,251,825	317,232	209,117	1,187
Seventh,	5,672,716	690,262	313,223	6,681,001	229	10,851	47	57	3,842,150	551,368	313,796	1,190
Eighth,	5,091,704	500,529	95,837	4,494,170	246	8,465	47	48	2,539,650	1,183,551	74,663	1,066
Ninth,	5,284,923	498,844	162,236	5,991,102	243	10,019	36	44	2,979,875	185,890	193,712	1,185
Tenth,	5,141,693	441,012	63,402	5,657,007	235	10,007	32	46	2,498,350	333,541	618,324	668
Eleventh,	5,679,886	750,521	150,455	6,580,862	253	11,102	23	62	3,863,525	2,477,819	.....	947
Twelfth,	5,926,336	474,982	62,155	6,453,473	260	7,009	20	23	1,167,615	642,692	110,109	534
Thirteenth,	2,613,794	350,879	70,687	3,035,110	258	6,879	29	36	890,625	741,139	106,005	502
Fourteenth,	3,139,062	586,365	53,901	3,729,318	221	6,651	16	48	203,100	1,122,001	122,020	559
Fifteenth,	2,853,781	333,852	48,621	3,235,254	250	7,134	25	30	498,000	1,474,377	87,847	576
Sixteenth,	2,952,976	372,049	77,649	3,402,674	254	7,289	22	80	1,336,220	517,957	38,413	677
Seventeenth,	4,679,678	667,798	168,736	5,491,202	270	9,688	33	26	78,500	1,823,996	165,344	425
Eighteenth,	2,945,379	344,778	34,933	3,325,093	227	6,511	31	78	321,824	1,063,460	194,238	601
Nineteenth,	2,094,086	638,151	40,367	3,662,604	266	7,825	18	43	377,875	720,424	438,311	608
Twentieth,	2,200,490	465,711	40,743	2,706,944	267	6,045	36	38	296,525	587,070	243,326	554
Twenty-first,	3,111,497	370,333	61,330	3,623,365	214	7,400	22	65	2,501,150	619,242	263,364	616
Totals, 1913,	80,325,964	9,357,782	1,943,239	91,626,964	242	176,310	624	1,125	44,001,660	16,093,035	3,823,645	16,109

Digitized by Google

TABLE AA—Part 1.—Continued

Years	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production in tons of 2,000 pounds	Average number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives: Number of pounds of powder used	Explosives: Number of pounds of dynamite used	Explosives: Number of pounds of permissible explosives used	Number of horses and mules
1912	73,462,014	8,804,759	2,160,006	84,426,869	220	175,006	601	976	41,401,015	13,635,062	2,087,026	15,187
1911	73,775,010	9,152,073	1,990,063	90,917,176	234	173,333	699	1,124	47,846,453	13,869,056	2,122,264	15,625
1910	73,418,729	8,396,895	1,863,369	83,683,994	212	168,175	601	1,050	45,112,822	11,171,458	1,506,140	15,847
1909	70,214,739	8,108,810	1,805,284	80,223,833	206	171,196	567	1,084	41,191,857	10,724,616	666,627	16,122
1908	73,507,322	8,329,032	1,715,589	83,543,248	211	174,506	673	1,170	49,390,800	10,746,245	.....	16,257
1907	76,188,664	8,277,439	1,700,309	86,066,412	227	168,774	706	1,269	47,686,700	10,644,781	.....	17,125
1906	63,418,916	7,198,140	1,622,454	72,139,510	206	166,176	557	1,212	40,352,075	7,980,733	.....	16,972
1905	69,984,070	7,122,394	1,590,556	78,647,020	208	168,254	644	1,289	47,570,500	8,358,594	.....	17,500
1904	66,187,293	6,912,353	1,544,728	73,594,369	213	161,390	599	1,047	44,779,800	6,619,812	.....	17,065
1903	67,458,886	6,896,582	1,478,167	75,222,585	211	151,827	518	1,325	42,529,400	6,217,422	.....	16,872
1902	35,233,081	4,955,753	1,047,162	41,240,996	116	148,139	300	641	21,128,676	3,130,965	.....	16,139
1901	59,961,650	5,912,900	1,320,115	67,004,665	195	147,651	513	1,243	38,020,100	4,155,695	.....	16,069
1900	50,704,201	5,466,644	1,192,561	57,363,396	176	143,894	411	1,057	30,929,500	3,454,641	.....	15,708
1899	53,705,009	5,568,539	1,244,783	60,518,331	179	140,604	461	1,080	34,317,275	3,649,417	.....	15,690

Digitized by Google

TABLE A.—Continued

Districts	Twelfth	Thirteenth	Fourteenth	Fifteenth	Sixteenth	Seventeenth	Eighteenth	Nineteenth	Twentieth	Twenty-first	Grand totals inside and outside
Inside											
	11	12	97	18	16	18	18	20	11	32	424
	60	64	91	48	60	57	64	59	65	27	1,066
		14	7	86	61	71	20	48	24	12	778
	1,475	1,024	1,186	2,811	2,139	1,846	1,755	1,858	1,410	1,065	44,348
	1,146	964	987	815	760	680	835	1,000	617	1,029	32,978
	347	264	312	843	858	808	293	351	208	137	11,468
	61	60	98	60	55	78	60	58	68	118	2,611
	71	41	58	50	47	30	47	54	42	71	1,211
	610	568	447	824	650	2,460	635	642	546	400	15,912
	1,145	849	1,118	1,181	952	1,940	885	1,140	1,538	819	16,863
Inside	4,906	4,144	4,166	5,285	5,099	6,718	4,560	5,229	4,519	5,341	138,667
Outside											
	1	8	5	8	4	6	12	14	2	14	121
	16	82	58	14	17	32	24	28	14	16	419
	74	161	160	97	118	271	116	158	102	145	8,191
	470	804	888	864	815	868	300	856	280	239	6,276
	402	865	818	410	877	886	290	801	146	258	6,146
	90	411	80	50	76	61	40	111	11	256	8,975
	84	50	84	48	58	47	85	49	81	89	841
All other employees,	1,806	1,710	1,685	990	1,180	1,931	1,119	1,681	941	1,080	26,675
Totals,	2,108	2,715	3,466	1,899	2,147	3,975	1,921	3,596	1,586	2,069	46,648
	7,009	6,879	6,651	7,184	7,239	9,693	6,511	7,825	6,044	7,400	176,310
Grand totals inside and outside,											

Digitized by Google

TABLE B—Causes of fatal accidents inside and outside the mines, and number attributable to each cause; number of wives made widows and children made orphans by reason of such accidents, 1913

Causes of Fatal Accidents	Districts																	
	First	Second	Third	Fourth	Fifth	Sixth	Seventh	Eighth	Ninth	Tenth	Eleventh	Twelfth	Thirteenth	Fourteenth	Fifteenth	Sixteenth	Seventeenth	Eighteenth
Inside																		
Falls of coal, slate and roof,	19	28	7	10	11	23	16	21	19	17	12	11	10	2	9	10	6	10
Mine cars,	2	7	7	3	4	2	7	12	.....	5	5	5	4	2	5	3	3	4
Explosions of gas,	.....	.....	2	2	.....	1	4	.....	2	3	.....	3	.....	.....	1	1	4	.....
Suffocation by gas, etc.,	.....	.....	.....	1	.....	.....	.....	.....	4	.....	.....	.....	1	.....	4	1	.....	.....
Explosions of powder and dynamite,	.....	2	.....	1	3	1	1	1	.....	.....	.....	.....	.....	.....	1	1	.....	.....
Blasts, premature and otherwise,	3	4	5	3	1	3	6	9	5	1	2	.....	3	1	1	2	.....	4
Falling into shafts, slopes, etc.,	.....	4	.....	.....	.....	.....	3	1	1	.....	.....	.....	5	3	.....	1	5	4
Crushed at batteries,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	1
Kicked by mules, etc.,	1	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Machinery,	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Electricity,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
Miscellaneous,	1	.....	.....	.....	1	.....	4	1	.....	4	1	4	3	5	1	.....	5	3
Totals,	26	45	21	20	20	35	42	46	33	30	20	23	26	13	22	19	26	26
Outside																		
Cars,	1	.....	.....	2	.....	1	4	.....	1	.....	1	5	2	1	2	3	6	1
Machinery,	.....	.....	1	1	.....	.....	.....	.....	1	1	.....	2	.....	1	.....	.....	.....	2
Suffocation in chutes, etc.,	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Boiler explosions,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Electricity,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
Miscellaneous,	1	1	.....	2	.....	.....	.....	1	1	.....	2	.....	1	1	1	.....	1	2
Totals,	2	1	1	5	.....	1	5	1	3	2	3	7	3	3	3	3	7	5
Grand totals inside and outside,	28	46	22	25	20	36	47	47	36	32	23	30	29	16	25	22	33	31

Widows, 391.
Orphans, 909.

Digitized by Google

TABLE D.—Number of gaseous and non-gaseous mines in operation, number of foremen, assistants and fire bosses; production and percentage of production in net tons from gaseous and non-gaseous mines and washeries, by districts, 1913

Districts	Gaseous Mines					Non-gaseous Mines			Production in tons of 2,000 pounds from gaseous mines	Production in tons of 2,000 pounds from non-gaseous mines	Production in tons of 2000 pounds from washeries	Percentage of production from gaseous mines	Percentage of production from non-gaseous mines	Percentage of production from washeries
	Number of gaseous mines in operation	Number of mine foremen	Number of assistant mine foremen	Number of fire bosses		Number of non-gaseous mines in operation	Number of mine foremen	Number of assistant mine foremen						
First,	4	2	4	10		23	18	23	1,190,273	3,064,488	8,453	27.95	71.97	.08
Second,	22	14	15	66		4	6	4	3,614,299	432,310	246,531	80.21	7.91	5.86
Third,	10	10	10	51		18	10	11	2,621,340	1,098,061	68,969	69.64	29.62	1.74
Fourth,	21	15	12	55		13	5	8	3,277,067	1,708,151	619,566	71.04	15.46	13.51
Fifth,	13	8	6	28		18	9	18	1,859,853	1,788,997	.....	50.97	49.03	.....
Sixth,	21	17	51	88		28	18	28	4,117,424	2,076,944	.....	66.47	33.53	.....
Seventh,	43	26	96	71		4	3	4	6,065,210	808,440	210,381	80.03	4.59	4.74
Eighth,	17	19	60	40		17	6	17	3,587,216	847,074	69,880	79.82	18.85	1.33
Ninth,	27	19	25	69		16	5	4	5,221,023	410,432	319,047	87.15	7.62	5.33
Tenth,	24	14	19	80		16	8	8	4,853,300	685,375	163,329	85.97	11.24	2.80
Eleventh,	28	21	56	9		50	18	36	2,892,289	3,641,393	57,240	43.80	55.33	.87
Twelfth,	16	11	39	.....		.....	.....	.....	3,553,473	.....	.....	100.00	.....	.....
Thirteenth,	24	11	62	18		5	1	2	2,721,179	213,070	100,861	89.66	7.02	3.32
Fourteenth,	27	11	88	7		10	.....	8	3,438,776	285,512	.....	92.06	7.94	.....
Fifteenth,	11	9	33	26		18	4	10	2,444,481	791,623	.....	75.53	24.47	.....
Sixteenth,	23	15	55	51		19	1	14	2,667,258	847,067	48,179	75.69	24.00	1.41
Seventeenth,	19	14	33	71		20	4	4	4,259,674	564,774	687,854	78.12	10.27	11.61
Eighteenth,	24	12	39	20		21	6	15	2,248,106	1,076,965	.....	67.61	32.39	.....
Nineteenth,	31	15	46	42		20	5	13	2,140,297	474,480	47,887	80.74	13.95	1.31
Twentieth,	28	11	66	24		1	.....	.....	2,488,718	29,260	218,926	91.94	.91	8.05
Twenty-first,	4	8	4	12		30	19	28	586,865	2,987,725	28,775	15.80	83.38	.82
Totals and percentages,	442	239	848	778		327	131	235	66,552,586	22,140,227	2,934,137	72.64	24.16	3.20

Digitized by Google

TABLE E—Quantity of coal produced by each company that produced 300,000 or more tons, and the number of persons employed, 1913

Names of Companies	Inspection Districts	Number of employes inside	Number of employes outside	Total number of employes	Production of coal in net tons
Philadelphia and Reading Coal and Iron Company,	Twelfth, Thirteenth, Fourteenth, Fifteenth, Sixteenth, Eighteenth, Nineteenth, Twentieth,	19,065	7,875	26,930	12,705,331
Delaware, Lackawanna and Western Railroad Company,	Second, Third, Fourth, Fifth, Eighth, Ninth, Tenth,	15,824	3,242	19,066	10,288,190
Lehigh Valley Coal Company,	Fifth, Sixth, Seventh, Eighth, Eleventh, Twelfth, Fourteenth, Eighteenth, Twentieth,	11,215	3,876	15,091	9,056,567
Delaware and Hudson Company,	First, Second, Sixth, Seventh, Ninth,	10,961	3,272	14,233	7,336,094
Lehigh and Wilkes-Barre Coal Company,	Seventh, Ninth, Tenth, Eighteenth,	7,902	2,029	9,931	6,405,808
Pennsylvania Coal Company,	Third, Fifth, Sixth,	8,510	2,816	11,326	6,040,021
Lehigh Coal and Navigation Company,	Seventeenth,	6,009	2,531	8,540	4,843,508
Scranton Coal Company,	First, Second, Third, Fourth, Twenty-first,	4,055	1,355	5,410	2,423,657
Susquehanna Coal Company,	Tenth, Thirteenth,	2,907	1,374	4,281	2,247,021
Mineral Railroad and Mining Company,	Fifteenth, Sixteenth,	3,730	1,489	5,219	2,238,029
Kingston Coal Company,	Eighth, Ninth,	2,541	894	3,435	1,985,275
Hillside Coal and Iron Company,	First, Fifth, Sixth, Twenty-first,	2,692	946	3,638	1,727,768
Hudson Coal Company,	Third, Fourth, Fifth, Sixth, Twenty-first,	2,767	841	3,608	1,718,522
Coxe Brothers and Company, Incorporated,	Eleventh, Seventeenth, Eighteenth,	1,442	783	2,225	1,636,341
G. B. Markle Company,	Eleventh,	1,636	600	2,236	1,625,468
Summit Branch Mining Company,	Twentieth,	1,687	763	2,450	1,060,270
Pardee Brothers Coal Company,	Eleventh,	730	399	1,129	714,068
Price-Pancoast Coal Company,	Third,	1,187	252	1,439	713,396
West End Coal Company,	Tenth,	1,036	296	1,332	707,006
A. Pardee and Company,	Eleventh,	1,019	505	1,524	656,989
Forty Fort Coal Company,	Eighth,	1,096	296	1,392	620,712
Jermyn and Company,	Fifth,	778	181	959	568,534
Sterrick Creek Coal Company,	First,	812	180	992	508,583
C. M. Dodson and Company,	Eleventh,	490	254	744	440,524
Lytle Coal Company,	Nineteenth,	594	239	833	433,524
Mt. Lookout Coal Company,	Eighth,	621	146	767	420,922
Lackawanna Coal Company, Limited,	Twenty-first,	679	174	853	384,842
Pine Hill Coal Company,	Nineteenth,	540	191	731	383,329
Plymouth Coal Company,	Eighth, Ninth,	618	248	866	383,254
[illegible] Clair Coal Company,	Nineteenth,	394	316	710	378,180
[illegible] Anthracite Mining Company,	Twenty-first,	330	140	470	371,626
[illegible] Coal Company,	Eighteenth,	360	148	508	351,906

Digitized by Google

| | | |

TABLE H—Nationality of employes killed or fatally injured inside and outside the mines, 1892-1913, inclusive

Nationality	1892-1895	1896-1900	1901-1905	1906-1910	1911-1913
American,	310	404	617	618	381
English,	124	132	94	78	44
Welsh,	154	176	122	122	53
Scotch,	8	21	12	9	5
Irish,	287	332	212	159	78
German,	93	97	97	80	37
Totals,	976	1,162	1,154	1,066	598
Polish,	420	609	669	926	500
Hungarian,	195	186	103	89	22
Italian,	67	68	143	246	161
Slavonian,	30	42	151	200	168
Lithuanian,	17	36	152	321	254
Austrian,	20	39	84	77	60
Russian,	7	39	88	150	112
Greek,	5	15	9	13	20
Swedish,	3	10	4	5	5
French,	1	2	2	.....	2
Tyrolean,	.....	3	9	13	5
Bohemian,	.....	1	.....	3	3
Assyrian,	.....	.....	1	.....	.....
Canadian,	.....	.....	2	.....	.....
Montenegrian,	.....	.....	.....	2	2
Horwat,	.....	.....	.....	.....	4
Magyar,	.....	.....	.....	.....	6
Hebrew,	.....	.....	.....	.....	.....
Syrian,	.....	.....	.....	.....	1
Totals,	765	1,050	1,416	2,045	1,326
Grand totals,	1,741	2,212	2,570	3,111	1,924

Digitized by Google

TABLE K—Production of coal in tons of 2,000 pounds, by counties, 1899-1913, inclusive

Counties	1899	1900	1901	1902	1903	1904	1905	1906
Carbon,	1,826,267	1,863,637	1,858,519	1,104,462	2,150,021	2,253,512	2,476,406	2,246,5
Columbia,	1,002,469	980,721	1,209,859	738,070	1,353,904	1,151,624	1,229,697	969,0
Dauphin,	817,328	779,135	880,572	423,341	732,970	723,414	713,126	734,7
Lackawanna,	14,838,821	13,755,961	17,258,125	11,851,169	20,046,123	19,007,628	19,709,164	15,840,3
Luzerne,	22,287,712	21,481,122	23,963,869	14,577,949	27,878,362	27,705,288	29,992,636	26,612,1
Northumberland	4,860,292	4,690,944	5,430,991	3,162,066	5,518,580	5,516,647	5,483,181	5,367,4
Schuylkill,	13,694,171	12,998,899	15,277,658	8,622,103	16,389,505	16,173,158	17,975,160	16,576,5
Sullivan,	183,182	235,112	152,505	409,017	293,142	294,305	310,496	258,6
Susquehanna,	699,020	556,003	743,105	452,758	800,773	692,440	680,146	562,1
Wayne,	309,069	21,862	369,462	.....	68,895	71,353	67,008	71,3
Totals,	60,518,331	57,363,396	67,094,665	41,340,935	75,232,585	73,594,369	78,647,020	72,139,5

Counties	1907	1908	1909	1910	1911	1912	1913
Carbon,	2,762,573	2,784,946	2,652,997	3,214,169	3,312,483	2,843,576	3,53
Columbia,	1,188,168	1,189,326	1,093,103	960,145	1,193,736	1,214,547	1,214,4
Dauphin,	829,360	848,005	932,393	886,192	946,963	947,172	1,08
Lackawanna,	22,443,409	21,631,995	20,489,212	21,182,921	22,586,414	20,617,306	21,536,2
Luzerne,	30,883,357	31,728,997	30,992,306	32,206,979	35,061,382	32,943,332	36,32
Northumberland,	6,476,725	6,067,741	5,947,635	6,224,317	7,109,377	6,551,441	7,01
Schuylkill,	20,160,970	18,196,714	16,794,597	17,686,013	19,234,447	17,996,745	19,511,5
Sullivan,	433,119	510,712	641,216	732,574	711,429	648,253	684,2
Susquehanna,	644,288	487,960	589,835	672,400	582,510	582,510	594,2
Wayne,	85,594	63,906	50,739	51,776	76,149	92,543	83,5
Totals,	86,056,413	83,343,243	80,223,833	87,083,994	90,917,176	84,426,989	91,625,9

Digitized by Google

TABLE L—Fatal accidents per 1,000 employes inside and outside the mines, and production in tons per fatal accident, by years and by decades, 1870-1913, inclusive

Years	Employes	Fatal accidents	Fatal accidents per 1,000 employes	Production in tons of 2,000 pounds	Production per fatal accident	Fatal accidents per 1,000,000 tons produced
1870,	35,600	211	5.93	14,172,004	67,166	14.89
1871,	37,488	210	5.60	15,532,252	73,963	13.52
1872,	44,745	223	4.98	15,567,973	69,811	14.32
1873,	48,199	264	5.48	21,001,521	79,551	12.57
1874,	53,402	231	4.33	19,930,240	86,278	11.59
1875,	69,966	238	3.40	23,402,646	98,330	10.17
1876,	70,474	228	3.24	23,440,966	102,810	9.73
1877,	66,842	194	2.90	24,727,218	127,460	7.85
1878,	63,964	187	2.92	20,900,966	111,770	8.95
1879,	63,847	262	3.81	31,036,800	118,460	8.44
Totals and percentages,	559,527	2,248	4.02	209,712,081	93,288	10.72
1880,	78,378	202	2.75	27,974,532	138,488	7.22
1881,	76,031	273	3.59	34,202,558	125,284	7.98
1882,	82,200	291	3.54	35,057,430	120,472	8.30
1883,	91,421	323	3.53	37,747,369	116,865	8.56
1884,	101,073	332	3.28	36,468,738	109,846	9.10
1885,	100,320	332	3.31	38,232,155	115,157	8.68
1886,	103,044	279	2.71	38,959,932	139,609	7.16
1887,	106,517	316	2.97	42,156,300	133,406	7.50
1888,	122,218	364	2.98	46,635,087	128,118	7.81
1889,	119,964	397	3.32	43,650,768	109,952	9.09
Totals and percentages,	976,161	3,109	3.18	381,075,819	122,572	8.16
1890,	119,919	378	3.15	44,986,286	119,011	8.40
1891,	123,308	428	3.47	49,701,322	116,125	8.61
1892,	130,300	418	3.21	51,226,978	122,553	8.16
1893,	138,069	456	3.30	52,841,110	115,880	8.63
1894,	139,939	446	3.19	50,966,920	114,276	8.75
1895,	143,705	421	2.93	56,948,756	135,270	7.39
1896,	150,088	502	3.34	53,843,250	107,257	9.32
1897,	149,557	423	2.83	52,581,086	124,305	8.04
1898,	142,420	411	2.89	52,812,575	128,498	7.78
1899,	140,604	461	3.28	60,518,331	131,276	7.62
Totals and percentages,	1,377,909	4,344	3.15	526,426,664	121,185	8.25
1900,	143,824	411	2.86	57,363,396	139,570	7.16
1901,	147,651	513	3.47	67,094,665	130,789	7.65
1902,	148,139	300	2.03	41,340,935	137,803	7.26
1903,	151,827	518	3.41	75,232,585	145,237	6.89
1904,	161,330	595	3.69	73,594,369	123,688	8.08
1905,	168,254	644	3.83	78,647,020	122,123	8.19
1906,	166,175	557	3.35	72,139,510	129,514	7.72
1907,	168,774	708	4.20	86,056,412	121,549	8.23
1908,	174,503	687	3.88	83,543,243	123,220	8.12
1909,	171,195	567	3.31	80,223,833	141,488	7.07
Totals and percentages,	1,601,672	5,491	3.42	715,235,946	130,256	7.68
1910,	168,175	601	3.57	83,683,994	139,241	7.18
1911,	173,338	699	4.03	90,917,176	130,067	7.69
1912,	175,098	601	3.43	84,426,869	140,477	7.12
1913,	175,310	624	3.56	91,626,964	146,838	6.81
Totals and percentages,	691,921	2,525	3.65	350,655,003	138,873	7.20
Grand totals and percentages,	5,207,190	17,717	3.40	2,183,105,513	123,221	8.12

Digitized by Google

Digitized by Google

FIRST DISTRICT

LACKAWANNA COUNTY

Carbondale, Pa., February 12, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit herewith my report as Inspector of Mines for the First Anthracite District for the year ending December 31, 1913.

Respectfully submitted,

P. J. MOORE, Inspector.

Digitized by Google

Number of employes outside per non-fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per fatal accident	Number of employes inside per fatal accident	Total number of employes	Number of employes outside	Number of employes inside	Tons of coal produced per non-fatal accident inside	Tons of coal produced per fatal accident inside
148	63	664	286	6,569	1,823	4,241	28,827	226,494
180	135	.....	271	992	180	812	74,028	149,676
.....	163	.....	120	916	265	651	87,022	69,618
.....	212	.....	71	817	105	712	186,975	61,992
40	116	.....	115	810	90	720	57,277	57,277
76	76	.....	152	228	76	152	88,754	77,608
.....	45	.....	46	60	15	45	20,011	20,011
.....	.....	.....	.....	21	7	14	.....	.....
158	77	1,029	245	8,413	2,056	6,357	45,807	116,230

Digitized by Google

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of roof,	3	3	1	1	1	....	2	1	2	3	1	1	19	73.08
Mine cars,	....	1	....	1	....	....	....	....	....	....	....	....	2	7.69
Blasts, premature and otherwise,	....	....	1	1	1	....	....	....	....	....	....	....	3	11.53
Mules,	....	....	....	....	....	....	....	....	....	....	....	1	1	3.85
Struck by piece of rock,	....	1	....	....	....	....	....	....	....	....	....	....	1	3.85
Totals,	3	5	2	3	2	....	2	1	2	3	1	2	26	100.00
Causes of Accidents Outside														
Cars,	....	....	....	....	....	....	1	....	...	....	....	....	1	50.00
Struck by piece of iron,	1	....	....	....	....	....	....	....	....	....	....	....	1	50.00
Totals,	1	....	....	....	....	....	1	....	....	....	....	....	2	100.00
Grand totals inside and outside,	4	5	2	3	2	....	3	1	2	3	1	2	28	.....

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	1	....	....	1	....	....	....	....	1	....	....	1	4	4.82
Falls of roof,	2	5	5	6	2	1	5	7	3	2	4	1	43	51.81
Mine cars,	....	2	3	....	2	1	2	3	1	....	2	....	16	19.28
Explosions of gas,	....	....	....	....	....	1	....	....	....	1	....	....	2	2.41
Explosions of powder and dynamite,	....	....	1	....	....	....	....	....	....	....	....	....	1	1.20
Blasts, premature and otherwise,	1	....	1	....	....	....	1	....	1	1	....	....	5	6.02
Electricity,	....	....	....	....	....	1	....	....	....	....	....	....	1	1.20
Mules,	....	....	....	....	1	....	....	....	....	....	1	1	3	3.62
Machinery,	....	....	....	....	....	....	....	....	....	1	....	....	1	1.20
By falling,	....	....	1	....	....	....	....	1	....	....	....	....	2	2.41
Struck by piece of rock,	....	....	1	....	....	....	....	....	....	....	....	....	1	1.20
Struck by piece of timber,	....	....	....	....	1	....	....	....	....	....	....	....	1	1.20
By iron rail,	....	....	1	....	....	....	....	....	....	....	....	....	1	1.20
By lever,	....	....	....	....	1	....	1	....	....	....	....	....	2	2.41
Totals,	4	7	13	7	7	4	9	11	6	5	7	3	83	100.00
Causes of Accidents Outside														
Cars,	1	....	2	....	....	1	1	....	....	2	....	....	7	53.85
Machinery,	....	....	....	....	....	....	....	....	....	....	....	1	1	7.69
Struck by piece of rock,	....	....	1	....	....	....	....	....	....	....	....	....	1	7.69
Struck by timber,	....	....	....	....	....	....	....	....	1	....	....	....	1	7.69
By falling,	....	....	....	....	....	....	1	1	....	....	....	....	2	15.39
Side of ditch caved on him,	....	....	....	....	....	1	....	....	....	....	....	....	1	7.69
Totals,	1	....	3	....	....	2	2	1	1	2	....	1	13	100.00
Grand totals inside and outside,	5	7	16	7	7	6	11	12	7	7	7	4	96	.....

Digitized by Google

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Area of furnace bars in square feet	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Delaware and Hudson Co.																
Oyphant No. 2 Colliery:																
Grassy Island No. 2, ...	Shaft,...	Gaseous,..	Fan, ...	28	7.5	8.	60	2	Guibal, ..	Steam,.....		9	220,000	200,000	220,000	700
Grassy Island No. 2, ...	Slope,...			20	7	7	70	1				8	185,000	175,000	190,000	598
Grassy Island No. 2, ...	Slope,...			20	5	6	90	2				4	86,100	78,900	88,900	145
Miles, ...																
Coal Brook Colliery:																
Coal Brook No. 1, ...	Tunnel,	Non-gas.,.	Fan, ...	17	4.25	4.25	75	1.7	Guibal, ..	Electricity,.		2	30,000	25,000	32,000	100
Coal Brook No. 1, Grassy	Drift, ...			17	4.25	4.25	90	1.2				2	37,000	35,000	31,000	118
Coal Brook No. 2, Grassy	Tunnel,..			17	4.25	4.25	75	1.5				3	60,000	55,000	63,000	175
Coal Brook No. 3, Grassy	Tunnel,..			12	4	4	90	.5				2	50,000	46,000	55,000	166
Coal Brook, Wilcox, ...	Tunnel,..			20	5	5	75	1.5				4	74,000	66,000	80,000	191
Coal Brook, Wilson Creek	Tunnel,..			20	5	6	75	1.2				4	85,000	78,000	90,000	200
Coal Brook No. 1, Pattenr	Tunnel,..			10	2.5	2.5	100	.5				2	50,000	45,000	55,000	81
Jermyn Colliery:																
Jermyn, ...	Shaft,.....	Non-gas.,.	8 Fans. ..	20	5	6	75	1.5	Guibal, ..	Steam,.....		13	225,000	175,000	254,000	953
				17	5	6	75	.9		Steam,.....						
				17	5	6	120	1.2		Electricity,.						
Powderly Colliery:																
Powderly, ...	Tunnel,	Non-gas.,.	Natural,	.....	.....	.....	.....	.....	.....	.....	..	4	50,000	45,000	58,000	220
Powderly, ...	Slope,...		Fan, ...	17	4	4	80	1.2	Guibal, ...	Steam,.....	..	1	12,000	10,000	14,000	56
Powderly No. 1, ...	Tunnel,..		Fan. ...	10	4	4	140	1	Guibal, ...	Electricity,.	..	4	80,000	75,000	90,000	267
Powderly No. 1, ...	Slope,...		Fan. ...	10	3.5	3.5	140	1	Buffalo, ...	Electricity,.	..	2	20,000	15,000	21,000	70

Digitized by Google

Gravity Slope Colliery:																		
No. 11,	Tunnel,	Non-gas.,	Fan,	17	5	5	90	1.6	Guibal,	Steam,		4	75,000	60,000	90,000	259
No. 6,	Tunnel,			10	3	3	100	.3				2	45,000	40,000	48,000	155
Gravity Slope,	Slope,			20	5	6	60	.5				2	40,000	35,000	45,000	142
Sterrick Creek Coal Co.																		
Sterrick Creek Colliery:																		
Sterrick Creek,	Drift,	Non-gas.,	Fan,	20	4.5	4.5	70	1.3	Guibal,	Steam,		2	42,000	38,000	44,000	185
Sterrick Creek,	Shaft,	Gaseous,	2 Fans,	25	5	5.5	65	.5				4	80,000	75,000	82,000	377
				10	3.5	3.5	185	.8				4	67,000	50,000	75,000	250
Scranton Coal Co.																		
Raymond Colliery:																		
Raymond No. 3,	Slope,	Non-gas.,	Fan,	14	6	5	100	1.2	Guibal,	Steam,		4	95,000	90,000	100,000	400
Raymond No. 2,	Slope,	Non-gas.,	Fan,	18	5	5	75	.7	Guibal,	Steam,		2	25,000	24,000	28,000	119
Riverside Colliery:																		
Riverside,	Shaft,	Gaseous,	Fan,	20	4	6	72	.4	Guibal,	Steam,		3	75,000	60,000	78,000	132
Hillside Coal and Iron Co.																		
Erie Colliery:																		
Erie,	Shaft,	Non-gas.,	Fan,	12	5	5	70	.1	Guibal,	Steam,		5	75,000	60,000	80,000	212
Archbald Coal Co.																		
Tappans Colliery:																		
Tappans,	Slope,	Non-gas.,	2 Fans,	16	5	6	72	.5	Guibal,	Steam,		8	125,000	100,000	130,000	230
				12	3	3	80	.5										
Humbert Coal Co.																		
Sunnyside Colliery:																		
Sunnyside,	Tunnel,	Non-gas.,	Fan,	6	3	4	90	.6	Guibal,	Steam,		2	40,000	30,000	42,000	152
West Mountain Coal Co.																		
West Mountain Colliery:																		
West Mountain,	Drift,	Non-gas.,	Fan,	12	3	3	75	.7	Guibal,	Steam,		2	20,000	16,000	24,000	45
Fall Brook Coal Co.																		
Murrins Colliery:																		
Murrins,	Drift,	Non-gas.,	Natural,	.....	.....	.....	.....	.....	.....	.....		1	3,500	3,000	3,600	14

Digitized by Google

TABLE 2.—Continued

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Archbald Coal Co.													
Tappans,	Lackawanna,	108,086	6,122	347	114,555	219	310	2	4	92,125	83,250	.....	24
Humbert Coal Co.													
Sunnyside,	Lackawanna,	68,058	9,125	325	77,508	214	228	1	3	66,825	19,114	.....	18
West Mountain Coal Co.													
West Mountain,	Lackawanna,	13,390	1,095	5,526	20,011	271	60	1	1	30,000	3,150	.....	17
Fall Brook Coal Co.													
Murrins,	Lackawanna,	1,418	300	3,062	4,780	187	21	.....	.....	250	100	.....	4
Grand totals,	.....	3,389,702	373,751	33,523	3,901,976	.....	8,413	28	96	3,266,375	784,132	26,879	583

Digitized by Google

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers				Locomotives			Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Steam	Air	Electric							
Delaware and Hudson Co.,	Lackawanna,	42	1,134	41	8,585	17	19	49	163	11,619	33	53,450	12,000	17	8
Sterrick Creek Coal Co.,	"	.....	.....	3	1,800	4	.....	.....	26	2,520	3	2,700	2,200	2	2
Scranton Coal Co.,	"	.....	.....	18	2,200	3	.....	2	80	2,892	11	7,150	5,509	2	2
Hillside Coal and Iron Co.,	"	.....	.....	16	1,600	.....	.....	5	23	1,595	2	1,732	1,650	2	2
Archbald Coal Co.,	"	.....	.....	4	400	2	.....	.....	11	686	1	1,250	800	.....	.....
Humbert Coal Co.,	"	.....	.....	3	240	2	.....	.....	9	250	.....	.....	.....	.....	.....
West Mountain Coal Co.,	"	.....	.....	2	300	.....	.....	.....	2	146	.....	.....	.....	.....	.....
Fall Brook Coal Co.,	"	.....	.....	1	150	.....	.....	.....	1	75	.....	.....	.....	.....	.....
Totals,	.....	42	1,134	88	15,275	28	19	56	265	19,252	50	66,282	22,159	23	14

Digitized by Google

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 3	William Healy, ...	American,	Miner, ...	40	M.	1	2	Coal Brook, ...	Lackawanna,	Fatally injured by fall of roof while barring out some loose coal at face of chamber.
7	Fred Gambo, ...	Italian, ...	Door boy, ...	16	S.	....	....	Raymond, ...		Instantly killed by fall of roof at face of miner's working place. He stepped into the face where the miner's machine was set up and commenced turning the machine when the roof fell on him.
	Felix Coapuck, ...	Polish, ...	Miner, ...	40	M.	1	5	Raymond, ...		Killed by fall of roof at face of working place while shoveling coal back to car.
20	Peter Kane, ...	American,	Laborer, ...	17	S.	....	....	Powderly, ...		Fatally injured by piece of iron thrown from third floor of breaker, striking him on head. Outside.
Feb. 1	Brenslow Chadwock, .	Polish, ...	Laborer, ...	30	S.	....	....	Powderly, ...		Fatally injured by fall of roof while removing some loose rock near pillar where he was working.
3	Louis Touch, ...	Italian, ...	Laborer, ...	53	M.	1	7	Sunnyside, ...		Fatally injured by fall of roof while barring out a shot at face of chamber.
5	Ray Heckman, ...	American,	Driver, ...	18	S.	....	....	Riverside, ...		Fatally injured by fall of rock from the gob.
18	Alfred Howe, ...	American,	Engineer, ...	21	S.	...	...	Coal Brook, ...		Fatally injured by being crushed between motor and pillar along heading road.
19	Cornell Ullrich, ...	German, ..	Miner, ...	50	M.	1	4	Gravity Slope, ..		Fatally injured at face of chamber by fall of roof while throwing back rock.
March 13	Michael Madden, ...	Irish, ...	Miner, ...	42	S.	....	....	Powderly, ...		Fatally injured by flying coals from blast he was firing in face of chamber.
26	John Corinsky, ...	Slavonian,	Miner, ...	30	M.	1	3	Sterrick Creek, .		Fatally injured by fall of roof at face of pillar while barring out a shot.
April 10	Roman Powl, ...	Austrian, .	Miner, ...	34	M.	1	2	Erie, ...		Fatally injured by flying coals from blast he fired in chamber.
12	Paul Draggon, ...	Russian, ..	Miner, ...	40	M.	1	7	Erie, ...		Fatally injured on heading road by a fall of roof that he was pulling down to make it safe.
25	John Moran, ...	Irish, ...	Company man,	45	S.	....	....	Tappans, ...		Fatally injured by trip of loaded mine cars along heading road.

Digitized by Google

May	23	Tony Gillardie, ...	Italian, ...	Miner, ...	38	M.	1	5	Tappans, ...		Fatally injured by fall of roof while barring out a shot at face of pillar he was removing.
	29	Michael Klonka, ...	Russian, ..	Miner, ...	52	M.	1	3	Erie, ...		Instantly killed by flying coals from blast he was firing in chamber.
July	1	William Wallian, ...	American,	Driver, ...	20	S.	....	....	Gravity Slope, ..		Fatally injured by mine cars on top of plane. He was employed as a driver inside the mine and was on his way home when the accident occurred. Outside.
	2	Anthony Orlando, ...	Italian, ...	Laborer, ...	23	S.	....	....	Gravity Slope, ..		Fatally injured by fall of roof at face of chamber while loading car.
	15	Stanley Chimachek, ..	Polish, ...	Miner, ...	45	M.	1	5	West Mountain, .		Fatally injured by fall of roof at face of chamber.
Aug.	28	Michael Karmovick, .	Austrian, .	Laborer, ...	19	M.	1	1	Raymond, ...		Fatally injured by fall of roof at face of chamber while shoveling coal.
Sept.	10	Andrew Nattelena, ...	Italian, ...	Miner, ...	40	S.	....	....	Sterrick Creek, .		Fatally injured by fall of roof at face of pillar he was removing.
	26	Joseph Vogarie, ...	Italian, ...	Miner, ...	46	M.	1	1	Sterrick Creek, .	Lackawanna,	Fatally injured by fall of roof while barring some loose coal from pillar he was removing.
Oct.	7	Joseph Poperilla, ...	Italian, ...	Miner, ...	43	M.	1	5	Raymond, ...		Fatally injured by fall of roof at face of pillar he was removing.
	8	Edward Yackievolez, .	Polish, ...	Miner, ...	43	M.	1	3	Gravity Slope, ..		Fatally injured by fall of roof at face of chamber while standing prop.
	21	Samuel Laface, ...	Italian, ...	Laborer, ...	26	M.	1	....	Gravity Slope, ..		Fatally injured by fall of roof near face of chamber. The piece was bell shaped and hard to detect.
Nov.	6	John Daubner, ...	German, ..	Miner, ...	72	M.	1	....	Olyphant, ...		Fatally injured by fall of bell roof near face of chamber.
Dec.	3	Alex Brocks, ...	Austrian, .	Miner, ...	40	M.	1	5	Gravity Slope, ..		Fatally injured by fall of roof at face of chamber while drilling a hole.
	30	John Ziznick, ...	American,	Runner, ...	18	S	....	....	Coal Brook, ...		Fatally injured by kick from mule.

Digitized by Google

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 20	Joseph Conlin, ...	American, ..	Laborer, ...	21	S.	Powderly, ...		Leg bruised and chin cut by car on rock dump tipping over on him. Outside.
25	Thomas Baldwin, ...	American, ..	Miner, ...	23	M.	Coal Brook, ...		Back bruised by fall of roof while drilling a hole at face of chamber.
27	Alford Cutter, ...	Welsh, ...	Miner, ...	37	S.	Olyphant, ...		Lacerations of scalp by flying coals from blast.
	Frank Tomain, ...	Italian, ...	Miner, ...	44	M.	Gravity Slope, ...		Foot bruised seriously by piece of coal falling on him while barring out a shot at face of chamber.
28	Louis Stanskefsky, ...	Russian, ...	Miner, ...	35	M.	West Mountain, ...		Leg fractured by piece of roof falling on him while barring some loose coal at face of chamber.
Feb. 3	Joseph Cound, ...	Italian, ...	Laborer, ...	38	M.	Sawyside, ...		Both legs and some ribs fractured by fall of roof.
10	Peter Coscowskie, ...	Polish, ...	Miner, ...	48	M.	Tappans, ...		Back injured seriously by fall of roof at face of chamber while drilling a hole.
17	Michael Munley, ...	American, ..	Driver, ...	17	S.	Coal Brook, ...	Lackawanna, ..	Arm bruised between car and prop.
18	William Updyke, ...	American, ..	Brakeman, ...	18	S.	Coal Brook, ...		Bruised about the hips and injured internally by being squeezed between motor and pillar along heading road.
18	Andrew Danengo, ...	Italian, ...	Miner, ...	28	S.	Riverside, ...		Hand badly fractured by piece of roof falling on him while barring it down in face of chamber.
22	Rego Nardella, ...	Italian, ...	Laborer, ...	23	S.	Sterrick Creek, ...		Back and hips injured by fall of roof at face of chamber while shoveling coal.
24	Ignats Garbulavitch, .	Polish, ...	Laborer, ...	23	S.	Olyphant, ...		Hip injured by piece of roof falling on him while standing prop in cross-cut.
March 3	George Carey, ...	English, ...	Driver, ...	19	S.	Sterrick Creek, ...		Lacerations of scalp and fractured leg by falling under a trip of empty mine cars.
4	Joseph Wall, ...	American, ..	Brakeman, ...	17	S.	Powderly, ...		Small finger on right hand cut off while uncoupling mine cars in motion. Outside.
5	James Baldwin, ...	English, ...	Motor engineer, ..	29	S.	Coal Brook, ...		Left arm burned by an electric wire.
	Joseph Moncose, ...	Italian, ...	Laborer, ...	28	M.	Powderly, ...		Left leg fractured by piece of roof falling on him while loading car at face of chamber.

Digitized by Google

[illegible]rch	7	Samuel Harvey, ...	American, ..	Miner, ...	20	M.	Jermyn, ...			Large toe broken by fall of rock.
	19	Victor Brosky, ...	Polish, ...	Laborer, ...	24	S.	Gravity Slope, ...			Cut on head and bruised about body by fall of roof in face of chamber he was visiting.
		Michael McFadden, ..	Polish, ...	Miner, ...	55	M.	Powderly, ...			Three toes fractured by fall of roof at face of chamber while barring it down.
		Anthony Tolerico, ...	Italian, ...	Laborer, ...	49	M.	Coal Brook, ...			Leg fractured above knee between cars. Outside.
	14	Adam Corey, ...	American, ..	Driver, ...	18	S.	Coal Brook, ...			Collar bone fractured and left leg bruised between car and prop.
	17	John H. Naisley, ...	American, ..	Laborer, ...	19	S.	Jermyn, ...			Arm fractured by piece of rock falling off car. Outside.
		Joseph Gagety, ...	Polish, ...	Miner, ...	30	M.	Raymond, ...			Scalp slightly fractured by flying coal from shot.
	21	Thomas Sanderson, ...	American, ..	Driver, ...	18	S.	Olyphant, ...			Arm fractured by falling on a rail.
		Michael Eshonsky, ...	Polish, ...	Miner, ...	29	S.	Powderly, ...			Leg burned by Atlas powder that became ignited while carrying it in his hip pocket.
	26	Edward Lewis, ...	Welsh, ...	Miner, ...	40	S.	Olyphant, ...			Leg fractured by fall of roof at face of heading.
	27	Michael Baseeha, ...	Russian, ...	Laborer, ...	25	S.	Tappans, ...			Left leg fractured by mine cars when they jumped the track.
	31	William Welsh, ...	Irish, ...	Miner, ...	40	M.	Coal Brook, ...			Head bruised and injured internally by fall of roof at face of chamber while standing a set of timber.
April	9	Martin Roach, ...	American, ..	Miner, ...	27	M.	Gravity Slope, ...			Head injured and one hand badly lacerated by fall of roof.
	9	Joseph Kearney, ...	American, ..	Laborer, ...	29	S.	Gravity Slope, ...			Left arm fractured by fall of roof in heading.
		Barton Biotek, ...	Austrian, ...	Laborer, ...	19	S.	Jermyn, ...	Lackawanna, ..		Thigh fractured and scalp injured by fall of roof.
		William Skinn, ...	English, ...	Miner, ...	48	M.	Jermyn, ...			Head and back injured by fall of roof in face of heading.
	16	John Howarth, ...	English, ...	Miner, ...	40	M.	Coal Brook, ...			Right foot fractured and back bruised by fall of top coal at face of chamber while drilling a hole.
	26	Wasyl Badnosh, ...	Russian, ...	Miner, ...	39	M.	Olyphant, ...			Back badly injured by fall of roof at face of chamber while shoveling coal.
	29	Frederick Henry, ...	American, ..	Miner, ...	33	M.	Coal Brook, ...			Left ankle fractured by fall of roof at face of chamber while shoveling coal.
May	5	Lawrence Ostrososky,.	Polish, ...	Laborer, ...	35	M.	Jermyn, ...			Second finger severed by a lever.
	13	Frank Smith, ...	American, ..	Driver, ...	16	S.	Gravity Slope, ...			Arm fractured by being kicked by mule.
	16	Duffy Yanceski, ...	Polish, ...	Runner, ...	22	S.	Riverside, ...			Left leg fractured by derailed mine car.
	21	Cathbert Chesterfield,	English, ...	Miner, ...	39	S.	Jermyn, ...			Seriously injured about the body by fall of roof at face of chamber while barring out a shot.
	26	Mathew Mullen, ...	Irish, ...	Driver, ...	16	S.	Olyphant, ...			Bruised about the head and face, three teeth knocked out and nose broken by falling timber.
	28	David Craven, ...	English, ...	Miner, ...	30	M.	Olyphant, ...			Leg fractured by fall of roof while working out a blast at face of chamber.
	28	Alvin Evans, ...	Welsh, ...	Motor brakeman, .	18	S.	Olyphant, ...			Hand seriously injured by being caught between the motor and a loaded car while putting sand on track along heading road.

Digitized by Google

TABLE 5.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
June 4	Henry Schwelder, ...	German, ...	Laborer, ...	60	S.	Coal Brook, ...	Lackawanna, ..	Ankle fractured while digging ditch. A portion of the side fell on him. Outside.
6	Herbert Lake, ...	English, ...	Engineer, ...	31	M.	Olyphant, ...		Burned about the face and hands by gas.
9	Louis Hilling, ...	American, ..	Runner, ...	18	S.	Olyphant, ...		Two fingers fractured on left hand by cage at foot of shaft.
14	Andrew Thompson, ..	Scotch, ...	Driver, ...	60	M.	Coal Brook, ...		Burned about the face and hands by electricity.
16	Harry Deckie, ...	German, ...	Laborer, ...	21	S.	Tappans, ...		Fractured leg by striking it against iron plate. Outside.
27	Martin Carden, ...	American, ..	Miner, ...	44	M.	Coal Brook, ...		Hand bruised and finger broken by fall of roof at face of chamber while drilling hole.
July 7	Joseph Marron, ...	Polish, ...	Laborer, ...	38	M.	Coal Brook, ...		Two fingers broken while coupling motor to car.
8	Joseph Maren, ...	American, ..	Miner, ...	35	M.	Gravity Slope, ...		Toe fractured by T iron rail falling on his foot.
	Michael Marion, ...	Irish, ...	Laborer, ...	66	M.	Gravity Slope, ...		Injured abont body between cars. Outside.
9	Felix Forsattle, ...	Italian, ...	Miner, ...	26	M.	Sunnyside, ...		Back bruised by fall of roof while barring it down.
16	James Cresco, ...	Italian, ...	Laborer, ...	24	S.	Coal Brook, ...		Head and back bruised by fall of roof while loading car at face of chamber.
17	Stanley Mazure, ...	Polish, ...	Laborer, ...	33	S.	Olyphant, ...		Leg fractured by being bumped between empty cars at foot of plane.
23	Frederick Fedorchak, .	Russian, ...	Laborer, ...	20	M.	Olyphant, ...		Skull fractured by flying coal from blast fired in next chamber.
24	Michael Peenwasky, .	Polish, ...	Laborer, ...	38	M.	Jermyn, ...		Ankle fractured by fall of roof while assisting the miner to replace a prop.
26	Thomas Franock, ...	Slavonian, .	Miner, ...	45	M.	Sterrick Creek, ...		Thigh fractured by fall of roof while picking out loose coal from a shot.
28	Charles Fossest, ...	Polish, ...	Miner, ...	35	M.	Powderly, ...		Ankle fractured by fall of roof at face of pillar he was removing.
	Bert Whitman, ...	English, ...	Watchman, ...	44	M.	Olyphant, ...		Head injured, rib broken and wrist sprained by falling off plank in fire room. Outside.

Digitized by Google

Aug.	4	John Sweeney, ...	American, ..	Miner, ...	55	M.	Coal Brook, ...	Lackawanna, ..	Leg injured by fall of roof at face of chamber.
	7	Simon Mashura, ...	Polish, ...	Miner, ...	50	M.	Olyphant, ...		Hip dislocated by fall of roof at face of chamber.
	11	Andrew Krocti, ...	Russian, ...	Laborer, ...	18	S.	Erie, ...		Leg fractured by fall of roof while shoveling coal back to car.
	14	John Wasneechuk, ...	Russian, ...	Laborer, ...	42	M.	Olyphant, ...		Head and back injured by fall of roof at face of heading.
	15	Thomas Munley, ...	American, ..	Company man, ...	45	S.	Raymond, ...		Leg injured by mine cars along heading road.
		John Walsh, ...	Irish, ...	Laborer, ...	55	M.	Tappans, ...		Leg fractured by falling on his way home. Outside.
	16	John Monsock, ...	Slavonian, .	Miner, ...	42	M.	Sterrick Creek, ...		Head and back injured by fall of roof at face of chamber while driving cross-cut.
		John Loftus, ...	American, ..	Driver, ...	18	S.	Coal Brook, ...		Leg fractured by falling from mine car.
	21	Thomas Parry, ...	Welsh, ...	Runner, ...	21	S.	Olyphant, ...		Body and leg injured by mine car while unhitching the tail rope.
	23	Martin Andrews, ...	Austrian, ...	Miner, ...	40	M.	Powderly, ...		Head and body injured by fall of roof at face of pillar he was removing.
	25	William Brewyuskie, .	Russian, ...	Laborer, ...	33	S.	Gravity Slope, ...		Side injured by falling while trying to escape a piece of falling coal.
	29	Frank Jewiskie, ...	American, ..	Laborer, ...	22	S.	Gravity Slope, ...		Ribs fractured by fall of roof while he was assisting his miner to pull it down.
Sept.	6	Louis Plunskie, ...	Polish, ...	Laborer, ...	22	S.	Powderly, ...		Leg fractured by flying coal from blast fired in face of heading.
	9	Adam Snyder, ...	American, ..	Carpenter, ...	73	M.	Sterrick Creek, ...		Skull fractured by piece of wood flying from a circular saw in carpenter shop. Outside.
	10	Harry Schear, ...	Russian, ..	Miner, ...	27	M.	Olyphant, ...		Compound fracture of leg by fall of roof at face of chamber while replacing a prop.
	17	John Ancorich, ...	Russian, ...	Laborer, ...	33	M.	Jermyn, ...		Head injured and shoulder dislocated by fall of top coal while assisting the miner to replace a prop.
	19	Samuel Graggo, ...	Italian, ...	Runner, ...	22	S.	Coal Brook, ...		Head and back injured by being thrown off a car coming out of chamber.
	25	Lewis Domananskie, ..	Polish, ...	Miner, ...	50	M.	Gravity Slope, ...		Foot lacerated by fall of roof.
	30	Frank Maren, ...	American, ..	Laborer, ...	22	S.	Gravity Slope, ...		Foot lacerated by fall of roof.
Oct.	11	William Brennan, ...	Irish, ...	Miner, ...	50	M.	Sterrick Creek, ...		Burned about the face and hands by gas.
	16	David Evans, ...	American, ..	Laborer, ...	21	S.	Powderly, ...		Hand badly injured by being caught in pinion wheel of electric pump.
	17	Simon Sharcryk, ...	Russian, ...	Laborer, ...	39	S.	Olyphant, ...		Foot fractured by fall of roof at face of chamber.
	21	Nicholas Ferrett, ...	Italian, ...	Miner, ...	37	M.	Sterrick Creek, ...		Finger cut off by piece of coal from a shot he had fired.
	27	Anthony Mullen, ...	American, ..	Laborer, ...	17	S.	Gravity Slope, ...		Hand injured seriously by wheel of car passing over it when he fell.. Outside.
		John Polowsky, ...	Russian, ...	Miner, ...	53	M.	Olyphant, ...		Compound fracture of left arm and bruised about the head by fall of roof at face of chamber.
		William Webb, ...	English, ...	Runner, ...	22	S.	Sunnyside, ...		Injured seriously about the body by falling under mine cars. Outside.
Nov.	3	Joseph Moscovice, ...	Polish, ...	Company man, ...	26	M.	Jermyn, ...		Thumb cut off at first joint while coupling cars.

Digitized by Google

20 by 7 feet and built concrete fan drift connecting with upcast compartment of No. 4 shaft. The fan is driven by an 18 by 30 inch Hamilton Corliss engine, single. Completed reinforced concrete partition wall between the upcast and downcast compartments of No. 4 shaft, a distance of 680 feet. Commenced to build new wash house near No. 2 shaft to contain shower baths and 200 lockers.

Coal Brook Colliery.—Installed two 6.5-ton electric locomotives with drum attachment for hauling coal and a 10-foot steel Buffalo fan for ventilating No. 6 tunnel. Built an addition to the boiler house 51 by 56 feet. Installed a General Electric 1,000 K. W. generator, driven by a pair of engines, 24 by 44 by 22 inches. Installed a new engine house and a 20 by 24 inch engine for No. 1 haulage and a 21-ton locomotive for hauling coal from the mines to the breaker. No. 22 plane was driven 2,000 feet.

Powderly Colliery.—No. 1. Installed a 6½-ton electric locomotive with drum attachment for hauling coal inside. No. 9 plane was equipped with a 20 H. S. P. electric house. Powderly tunnel driven from the surface to the Clark vein, a distance of 600 feet.

Jermyn Colliery.—Installed a General Electric 25 K. W. generator, driven by a 22 by 22 inch engine, and built a brick addition to the power-house, 24 by 51 feet. Two 6.5-ton electric locomotives with drum attachment installed for mine work. Tunnel driven 200 feet from surface to Clark vein. Driving a tunnel from the surface to the Dunmore vein to be 300 feet in length when finished. It is about one- third completed.

Gravity Slope Colliery.—Completed a breaker, 92 by 114 feet with a capacity of 1,500 tons per day, to supersede the old White Oak breaker. A concreted washhouse, 16 by 50 feet, was built for Gravity slope. A wooden washhouse, 16 by 24 feet was built for No. 6 tunnel. Installed a 16-ton locomotive for hauling coal from the mines to the breaker. Completed a water tight pump room, 20 by 60 feet, and a chute 14 by 18 feet. Installed two centrifugal electrically driven pumps with a capacity of 2,500 gallons each. Completed an engine house, with 14 by 20 foot engines, for lowering coal on No. 8 plane. Installed four 300 H. P. Stirling boilers in brick house and one generator 250 K. W. at breaker, and furnished power for pumping plant and light for breaker. Completed one engine house, 20 by 24 feet, and installed a 14 by 20 foot Flory engine on No. 8 plane and No. 12 tunnel.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in the Carbondale High School Building, June 23 and 24. The Board of Examiners was composed of P. J. Moore, Inspector; Richard Beers, Superintendent, Carbondale; John F. Boland, Miner, Carbondale, and David Evans, Miner, Olyphant.

The following persons passed a satisfactory examination and were granted certificates:

MINE FOREMEN

Thomas Davies, Charles F. Moore, Carbondale; Thomas J. Sullivan, Thomas H. Thomas, Patrick Cowley, Olyphant; Edison Thomas,

Digitized by Google

John Kane, Jermyn; Thomas Stratford, Henry E. Yewens, Forest City; Michael Jennings, Jessup; Michael J. McAuvic, Archbald; Mathias Gehen, Scranton; Albert Lewis, Nanticoke; William Y. Moffat, Dunmore; Henry Deichmiller, Dickson City.

ASSISTANT MINE FOREMEN

William Luther Tyrrell, Oscar Williams, Thomas H. Williams, John L. Goodwin, Carbondale; David J. Thomas, Samuel Roe, William J. Miskell, Michael J. Kilcullen, George A. Evans, William J. Parry, Olyphant; John Geehan, Charles Turissini, Jessup; Harry T. Evans, Arthur I. Young, Joseph H. Grier, Frank B. Magovern, David E. Thomas, David J. Edwards, Scranton; George Reed, Forest City; David W. Richards, Throop; Robert Hall, Dickson City; Stephen William Fitzsimmons, Peckville; Frank J. Hevers, Archbald.

Digitized by Google

SUMMARY OF STATISTICS

Number of collieries,	12
Number of mines,	26
Number of mines in operation,	26
Number of tons of coal shipped to market,	3,282,906
Number of tons used at mines for steam and heat,	384,994
Number of tons sold to local trade and used by employes,	84,957
Number of tons produced,	3,752,857
Number of tons produced by compressed air machines,	....
Number of tons produced by electrical machines,	....
Number of persons employed inside of mines,	7,482
Number of persons employed outside,	1,629
Number of fatal accidents inside of mines,	45
Number of fatal accidents outside,	1
Number of non-fatal accidents inside of mines,	43
Number of non-fatal accidents outside,	8
Number of tons of coal produced per fatal accident inside,	83,397
Number of tons produced per fatal accident outside,	3,752,857
Number of tons produced per fatal accident inside and outside,	81,583
Number of persons employed per fatal accident inside,	166
Number of persons employed per fatal accident outside,	1,629
Number of persons employed per fatal accident inside and outside,	198
Number of persons employed per non-fatal accident inside,	174
Number of persons employed per non-fatal accident outside,	203
Number of persons employed per non-fatal accident inside and outside.	179
Number of wives made widows,	28
Number of children made orphans,	70
Number of steam locomotives used inside of mines,	....
Number of steam locomotives used outside,	14
Number of compressed air locomotives used inside,	35
Number of compressed air locomotives used outside,	....
Number of electric motors used inside,	39
Number of electric motors used outside,	....
Number of fans in use,	25
Number of furnaces in use,	....
Number of gaseous mines in operation,	22
Number of non-gaseous mines in operation,	4
Number of new mines opened,	....
Number of old mines abandoned.	....

Digitized by Google

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Delaware and Hudson Company (Inside) / Hudson Coal Company (Outside)	1,827,056
Delaware, Lackawanna and Western Railroad Company,	1,268,545
Scranton Coal Company,	581,063
Clearview Coal Company,	40,702
Bulls Head Coal Company,	35,491
Total,	3,752,857

Production by Counties

Lackawanna,	3,752,857

Digitized by Google

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident Inside	Tons of coal produced per non-fatal accident Inside	Number of employes Inside	Number of employes outside	Total number of employes	Number of employes Inside per fatal accident	Number of employes outside per fatal accident	Number of employes Inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Delaware and Hudson Co. (Inside), ... Hudson Coal Co. (Outside), ...	18	1	19	24	6	30	101,503	76,127	3,645	750	4,395	203	750	152	125
Delaware, Lackawanna and Western Railroad Co., ...	20	.....	20	10	2	12	63,427	126,854	2,536	481	3,017	127	.....	253	241
Scranton Coal Co., ...	5	.....	5	3	.....	3	116,212	193,687	1,133	340	1,473	226	.....	377	.....
Clearview Coal Co., ...	2	.....	2	4	.....	4	20,351	10,175	72	27	99	36	.....	18	.....
Bulls Head Coal Co., ...	.....	.....	.....	2	.....	2	.....	17,745	96	31	127	.....	.....	48	.....
Totals and averages for district, ...	45	1	46	43	8	51	83,397	87,276	7,482	1,629	9,111	166	1,629	174	208

Digitized by Google

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	....	....	....	....	....	....	....	....	....	....	1	....	1	2.22
Falls of roof,	...	3	4	4	4	3	2	3	....	1	1	2	27	60.00
Mine cars,	1	....	....	3	1	....	....	1	1	....	....	....	7	15.56
Explosions of powder and dynamite,	....	1	1	....	....	....	....	....	....	....	....	....	2	4.44
Blasts, premature and otherwise,	1	1	....	....	....	1	....	....	....	1	....	....	4	8.89
Falling into shafts,	....	....	....	1	....	....	3	....	....	....	....	....	4	8.89
Totals,	2	5	5	8	5	4	5	4	1	2	2	2	45	100.00
Causes of Accidents Outside														
By falling,	....	....	....	....	....	....	....	....	1	....	....	....	1	100.00
Totals,	...	....	....	....	....	....	....	....	1	....	....	....	1	100.00
Grand totals inside and outside,	2	5	5	8	5	4	5	4	2	2	2	2	46	.....

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	....	....	....	....	....	....	....	....	1	....	....	....	1	2.33
Falls of roof,	2	2	1	1	2	....	2	1	1	....	5	2	19	44.19
Mine cars,	1	1	....	1	2	1	....	3	....	1	2	1	13	30.23
Explosions of gas,	....	....	....	....	....	....	....	....	....	....	....	1	1	2.33
Explosions of powder and dynamite,	....	....	1	....	....	....	....	....	....	....	....	....	1	2.33
Blasts, premature and otherwise,	1	....	....	....	....	....	....	....	1	1	....	....	3	6.98
Mules,	....	....	....	1	....	....	....	....	....	....	....	....	1	2.32
Machinery,	....	1	....	....	....	....	....	....	....	....	....	....	1	2.32
Struck by rope,	....	....	....	1	....	....	....	....	....	....	....	....	1	2.32
By falling,	....	....	....	....	....	....	....	2	....	....	....	....	2	4.65
Totals,	4	4	2	4	4	1	2	6	3	2	7	4	43	100.00
Causes of Accidents Outside														
Cars,	....	....	....	1	....	....	....	....	....	....	....	1	2	25.00
Machinery,	....	....	....	....	....	....	....	....	....	....	2	1	3	37.50
Bursting of pipe,	....	....	....	....	....	....	....	....	....	....	1	....	1	12.50
By falling,	....	....	....	....	....	....	....	1	....	....	....	1	2	25.00
Totals,	....	....	....	1	....	....	....	1	....	....	3	3	8	100.00
Grand totals inside and outside,	4	4	2	5	4	1	2	7	3	2	10	7	51	.....

Digitized by Google

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	....	4	5	4	3	1	1	3	....	1	....	2	24
Miners' laborers,	2	1	....	3	2	2	1	....	....	1	2	....	14
Drivers and runners,	....	....	....	1	....	....	....	1	....	....	....	....	2
Company men,	....	....	....	....	....	1	....	....	....	....	....	....	1
Headmen,	....	....	....	....	....	....	3	....	....	....	....	....	3
Brakemen,	....	....	....	....	....	....	....	....	1	....	....	....	1
Totals,	2	5	5	8	5	4	5	4	1	2	2	2	45
Outside													
Laborers,	....	....	....	....	....	....	....	....	1	....	....	....	1
Totals,	....	....	....	....	....	....	....	....	1	....	....	....	1
Grand totals inside and outside,	2	5	5	8	5	4	5	4	2	2	2	2	46

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Fire bosses and assistants,	....	....	....	....	....	....	....	1	....	....	....	....	1
Miners,	....	1	1	....	....	....	2	1	3	1	....	2	11
Miners' laborers,	2	2	1	1	2	....	....	2	....	....	6	1	17
Drivers and runners,	2	1	....	2	2	1	....	1	....	1	1	....	11
Motormen,	....	....	....	1	....	....	....	....	....	....	....	....	1
Brakemen,	....	....	....	....	....	....	....	1	....	....	....	1	2
Totals,	4	4	2	4	4	1	2	6	3	2	7	4	43
Outside													
Drivers,	....	....	....	....	....	....	....	1	....	....	....	....	1
Machinists,	....	....	....	....	....	....	....	....	....	....	1	....	1
Blacksmiths and carpenters,	....	....	....	....	....	....	....	....	....	....	1	....	1
Engineers and firemen,	....	....	....	....	....	....	....	....	....	....	....	1	1
Slatepickers (boys),	....	....	....	....	....	....	....	....	....	....	1	....	1
Laborers,	....	....	....	....	....	....	....	....	....	....	....	1	1
Bookkeepers and clerks,	....	....	....	1	....	....	....	....	....	....	....	....	1
Timbermen,	....	....	....	....	....	....	....	....	....	....	....	1	1
Totals,	....	....	....	1	....	....	....	1	....	....	3	3	8
Grand totals inside and outside,	4	4	2	5	4	1	2	7	3	2	10	7	51

Digitized by Google

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	1	....	1	....	....	1	....	1	1	....	....	....	5
English,	....	....	....	1	....	....	....	....	....	....	....	....	1
Welsh,	....	....	....	....	1	....	....	1	....	....	....	....	2
Irish,	....	....	1	1	1	....	....	....	....	....	....	....	3
Polish,	1	....	2	4	3	1	2	....	....	....	1	1	15
Hungarian,	....	....	....	....	....	....	....	....	....	1	....	....	1
Italian,	....	....	....	....	....	....	....	....	1	....	....	....	1
Slavonian,	....	....	....	....	....	....	3	....	....	....	....	....	3
Lithuanian,	....	5	1	1	....	1	....	2	....	....	1	1	12
Russian,	....	....	....	1	....	1	....	....	....	1	....	....	3
Totals,	2	5	5	8	5	4	5	4	2	2	2	2	46

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	1	....	....	3	2	....	1	2	....	....	3	3	14
English,	....	....	....	....	....	....	....	....	....	....	1	1	2
Welsh,	1	....	....	....	....	....	....	....	....	....	1	....	2
Scotch,	....	....	....	....	....	....	....	1	....	....	....	....	1
Irish,	....	1	....	....	....	....	....	1	....	1	....	1	4
German,	....	....	....	....	....	....	....	....	....	1	1	....	2
Polish,	2	1	1	....	1	....	1	1	1	....	1	1	10
Italian,	....	....	....	....	1	....	....	....	....	....	1	....	2
Lithuanian,	....	1	....	....	....	....	....	1	2	....	3	....	6
Russian,	....	1	1	2	....	1	....	1	....	....	1	1	8
Totals,	4	4	2	5	4	1	2	7	3	2	10	7	51

Digitized by Google

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Delaware and Hudson Co. (Inside), Hudson Coal Co. (Outside)															
Eddy Creek Colliery:															
Eddy Creek,	Shaft, ...	Gaseous, ..	Fan, ...	28	8	7.75	65	2.5	Guibal, ...	Steam, ...	8	186,150	179,200	192,750	108
New County,	Drift, ...	Non-gas., .	Fan.	8	3	2.12	160	1	Guibal, ...	Electricity,	2	36,468	26,606	41,225	80
Clark,	Drift, ...	Gaseous, ..	Fan.	10	3.3	2.5	150	1	Guibal, ...	Electricity,	3	48,298	36,426	53,046	80
Olyphant,	Shaft, ...	Gaseous, ..	Fan.	22	5	6.50	96	2.2	Guibal, ...	Steam, ...	10	205,503	156,153	260,245	446
No. 4,	Drift, ...	Non-gas., .	Fan, ...	10	2.5	2.5	125	2	Guibal, ...	Steam, ...	2	40,660	37,440	45,910	70
Dickson and Von Storch Colliery:															
Dickson,	Shaft, ..	Gaseous, ..	Fan, ...	20	5	7	75	1.6	Guibal, ..	Steam, ...	6	143,900	123,900	156,000	260
Dickson,	Shaft, ..	Gaseous, ..	Fan, ...	20	5	7	85	1.9	Guibal, ..	Steam, ...	6	100,400	89,000	112,100	220
Von Storch,	Shaft, ..	Gaseous, ..	Fan, ...	22	5.5	7	85	2.2	Guibal, ..	Steam, ...	7	101,440	75,710	108,610	265
Parker,	Shaft, ..	Gaseous, ..	Fan, ...	12	3.0	4	85	2.2	Guibal, ..	Steam, ...	2	15,100	11,400	18,200	52
Marvine Colliery:															
No. 2,	Shaft, ..	Gaseous, ..	Fan, ...	28	8	7.75	66	1.4	Guibal, ..	Steam, ...	4	142,200	129,700	149,860	172
14 Foot Vein,	Slope, ...			20	5	7	76	1.4			3	88,900	82,180	92,800	82
Clark,	Slope, ...			20	5	7	68	1.4			6	213,830	190,700	224,380	270
Legitts Creek Colliery:															
No. 1,	Shaft, ..	Gaseous, ..	Fan, ...	20	5	6	80	2.5	Guibal, ..	Steam, ...	6	126,100	116,350	147,410	272
No. 2,				20	5	6	80	2.6			4	66,170	62,110	69,000	104
No. 3,				22	5.5	7	90	4			4	100,000	81,200	122,800	208

Digitized by Google

Delaware, Lackawanna and Western Railroad Co.																
Storrs Colliery:																
No. 1,	Shaft,	Gaseous,	Fan,	24	7.6	7.2	68	2.2	Guibal,	Steam,	12	207,660	168,063	244,567	630
No. 2,	Shaft,	Gaseous,	Fan,	15	7	4.5	83	1.4	Jeffrey,	Steam,	10	182,733	167,670	212,762	510
No. 3,	Shaft,	Gaseous,	Fan,	24	8.00	6	73	1.3	Guibal,	Steam,	10	152,593	127,386	230,470	474
Brisbin Colliery:																
Brisbin,	Shaft,	Gaseous,	Fan,	15	8.3	4.2	68	1.3	Jeffrey,	Steam,	8	192,080	165,100	216,290	504
Cayuga Colliery:																
Cayuga,	Shaft,	Gaseous,	Fan,	18	6	5.5	80	2.5	Guibal,	Steam,	10	200,300	151,630	207,300	418
Scranton Coal Co.																
Johnson Colliery:																
No. 1,	Shaft,	Gaseous,	Fan,	30	10	8	55	1.4	Guibal,	Steam,	10	221,820	173,360	223,900	477
No. 2,	Shaft,	Gaseous,	Fan,	18	5	4.8	100	1.4	Guibal,	Steam,	4	78,000	*	90,000	237
Richmond No. 3 Colliery:																
Richmond,	Shaft,	Gaseous,	Fan,	30	8	10	30	.9	Guibal,	Steam,	4	65,000	55,000	82,000	177
West Ridge Colliery.																
West Ridge,	Shaft,	Gaseous,	Fan,	20	5	5	85	1.9	Guibal,	Steam,	6	77,000	69,700	81,800	220
Clearview Coal Co.																
Clearview Colliery:																
Clearview,	Shaft,	Non-gas.,	†	.....	.....	.....	.....	1	.....	.....	1	*16,800	14,000	16,000	23
Bulls Head Coal Co.																
Bulls Head Colliery:																
Bulls Head,	Slope,	Non-gas.,	Fan,	8	2	4	100	1	.....	.....	3	23,000	18,000	34,000	64

†Ventilated by fan at Von Storch colliery.
*It is difficult to measure the air owing to the many connections in the old workings, together with cave holes.

8—22—1914

Digitized by Google

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Delaware and Hudson Co. (Inside), Hudson Coal Co. (Outside) Eddy Creek, Jackson and Von Storch, Marvine, Legitts Creek, Legitts Creek Washery, Von Storch Washery,	Lackawanna,	C. C. Rose,	Scranton,	E. R. Pettebone,	Dorranceton,	Delaware and Hudson
Delaware, Lackawanna and Western Railroad Co. Storrs, Brisbin, Cayuga, Cayuga Washery, Storrs Washery,	Lackawanna,	R. A. Phillips,	Scranton,	Walter Reese,	Scranton,	D. L. and W.
Scranton Coal Co. Johnson, Richmond No. 3, West Ridge,	Lackawanna,	W. L. Allen,	Peckville,	J. K. Berkheiser, Inside, J. J. Aitkin, Outside, Daniel Young, Sr., Inside, J. J. Aitkin, Outside, Daniel Young, Sr., Inside, J. F. Cummings, Outside,	Olyphant, Priceburg, Scranton, Priceburg, Scranton, Scranton,	N. Y., O. and W.
Clearview Coal Co. Clearview,	Lackawanna,	F. P. Christian,	Scranton,	Hugh A. Dawson,	Scranton,	N. Y., O. and W.
Bulls Head Coal Co. Bulls Head,	Lackawanna,	David Spruks,	Scranton,	Jay Law,	Scranton,	N. Y., O. and W.

Digitized by Google

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Delaware and Hudson Co. (Inside) Hudson Coal Co. (Outside)													
Eddy Creek,	Lackawanna,	547,582	3,818	10	551,410	252	1,407	6	10	738,475	22,540	5,750	108
Dickson and Von Storch,		412,562	28,748	8,033	449,343	228	1,215	7	11	863,475	76,390	.....	117
Marvine,		307,843	35,682	4,517	348,042	248	910	4	2	500,925	45,332	.....	78
Legitts Creek,		294,706	18,532	12,831	326,069	241	863	2	7	515,100	35,649	.....	70
Washeries		1,562,693	86,780	25,391	1,674,864	.....	4,395	19	30	2,617,975	180,411	5,750	373
Legitts Creek,	Lackawanna,	.....	80,974	.....	80,974	*	.....	.....	.....	.....	.....	.....	....
Von Storch,		22,767	48,451	.....	71,218	69	*	.....	.....	.....	.....	.....	....
Totals,		1,585,460	216,205	25,391	1,827,056	.....	4,395	19	30	2,617,975	180,411	5,750	373
Delaware, Lackawanna and Western Railroad Co.													
Storrs,	Lackawanna,	750,594	43,885	5,832	800,311	251	1,880	12	5	964,075	65,908	.....	123
Brisbin,		195,607	18,808	5,452	219,867	243	616	7	3	257,700	13,162	.....	51
Cayuga,		156,075	18,340	6,027	180,442	220	485	1	4	128,400	85,941	.....	31
Washeries		1,102,276	81,033	17,311	1,200,620	.....	2,981	20	12	1,340,175	165,006	.....	205
Cayuga,	Lackawanna,	52,684	.....	.....	52,684	270	28	.....	.....	.....	.....	.....	....
Storrs,		11,455	3,786	.....	15,241	15	8	.....	.....	.....	.....	.....	....
Totals,		1,166,415	84,819	17,311	1,268,545	.....	3,017	20	12	1,340,175	165,006	.....	205

*Included with colliery.

Digitized by Google

TABLE 2.—Continued

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives: Number of pounds of powder used	Explosives: Number of pounds of dynamite used	Explosives: Number of pounds of permissible explosives used	Number of horses and mules
Kemmerer Coal Co.,													
Kemmerer No. 2,	Lackawanna,	294,176	58,200	8,568	370,931	215	924	3	3	260,000	21,800	.....	105
Kemmerer No. 3,	Lackawanna,	114,893	18,420	2,180	135,443	198	257	2	.....	65,000	4,200	.....	32
West Pittston,	Lackawanna,	81,746	10,700	2,200	91,686	200	282	.....	.....	142,250	30,675	.....	27
Totals,		490,815	87,320	7,948	681,062	.....	1,473	5	3	467,250	56,675	.....	164
Clearview Coal Co.,													
Clearview,	Lackawanna,	19,224	150	21,328	40,702	236	99	2	4	23,575	15,882	38,967	5
Hulls Head Coal Co.,													
Hulls Head,	Lackawanna,	20,962	1,500	13,089	35,491	261	127	.....	2	11,250	3,250	5,100	22
Grand totals,		3,282,906	384,904	84,867	3,752,857	.....	9,111	46	61	4,460,225	480,924	49,807	769

Digitized by Google

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers				Locomotives			Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Steam	Air	Electric							
Delaware and Hudson Co. (Inside), Hudson Coal Co. (Outside),	Lackawanna,	.....	.....	57	12,940	3	35	.....	181	11,490	15	26,000	11,650	2	15
Delaware, Lackawanna and Western Railroad Co.,		6	750	19	4,800	7	.....	24	50	7,331	7	11,171	5,766	9	.....
Scranton Coal Co.,		.....	.....	29	3,690	4	.....	3	51	10,226	10	8,383	6,259	4	1
Glenview Coal Co.,		.....	.....	.....	.....	.....	.....	2	4	125	.....	.....	.....	.....	.....
Bulls Head Coal Co.,		.....	.....	1	200	.....	.....	.....	4	125	.....	.....	.....	.....	.....
Totals,		6	750	106	21,630	14	35	29	290	29,347	32	45,554	23,675	15	16

Digitized by Google

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside: Mine foremen	Inside: Assistant mine foremen	Inside: Fire bosses and assistants	Inside: Miners	Inside: Miners' laborers	Inside: Drivers and runners	Inside: Doorboys and helpers	Inside: Pumpmen	Inside: Company men	Inside: All other employes	Inside: Total inside	Outside: Superintendents	Outside: Foremen	Outside: Blacksmiths and carpenters	Outside: Engineers and firemen	Outside: Slatepickers (boys)	Outside: Slatepickers (men)	Outside: Bookkeepers and clerks	Outside: All other employes	Outside: Total outside	Grand total inside and outside
Delaware and Hudson Co. (Inside),	Lackawanna,	7	7	34	1,109	1,187	577	67	23	518	116	3,645	....	7	47	138	58	125	8	367	750	4,395
Delaware and Hudson Co. (Outside),																						
Delaware, Lackawanna and Western Railroad Co.,		6	5	20	784	990	182	48	13	271	217	2,536	....	4	29	71	112	....	12	253	481	3,017
Scranton Coal Co.,		4	6	11	339	345	176	25	25	...	202	1,133	....	3	24	70	48	41	8	161	340	1,473
Clearview Coal Co.,		2	1	1	10	24	3	...	1	20	....	72	1	1	1	3	7	....	3	11	27	99
Bulls Head Coal Co.,		1	....	....	44	20	13	3	....	15	....	96	1	1	8	4	6	1	1	14	31	127
Totals,		20	19	66	2,286	2,566	951	143	62	834	535	7,482	2	16	104	286	231	167	27	796	1,629	9,111

Digitized by Google

TABLE 3.- Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Delaware and Hudson Co. (Inside), Hudson Coal Co. (Outside),	Lackawanna,	22	20	20	20	21	20	20	19	20	21	19	20	242
Delaware, Lackawanna and Western Railroad Co.,		14	16	19	22	22	21	22	22	20	20	20	20	238
Scranton Coal Co.,		20	19	20	19	16	15	17	15	16	17	15	15	204
Clearview Coal Co.,		27	26	26	14	.....	.....	12	27	26	27	26	25	236
Bulls Head Coal Co.,		23	22	20	21	20	23	21	23	23	23	20	22	261

Digitized by Google

TABLE 4.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
July 26	John Savitska, ...	Polish, ...	Miner, ...	45	M.	1	4	Storrs, ...	Lackawanna, ..	Killed by fall of bell roof near face of chamber.
Aug. 9	William Cullington, ..	American, ..	Runner, ..	16	S.	....	....	Marvine, ...		Fatally injured by car on gangway road. He was leading a mule when it turned on the wrong road, throwing him against the rib where he was caught by a derailed car.
18	Martin Smith, ...	Lithuanian,	Miner, ...	37	M.	1	....	Von Storch, ..		Fatally injured by fall of roof at face of chamber while examining after a blast.
	Roger Kulick, ...	Lithuanian,	Miner, ...	36	M.	1	2	Storrs, ...		Killed by fall of bell roof at face of chamber.
29	Edwin Thomas, ...	Welsh,.....	Miner, ...	50	M.	1	2	Eddy Creek, ..		Killed by fall of roof at face of chamber while re-standing a prop dislodged by blast.
Sept. 3	Rookey Ferlano, ...	Italian, ...	Laborer, ..	24	M.	1	1	Marvine, ...		Fatally injured by falling from scaffold on new power house. He was wheeling a barrow and lost his balance. Outside.
22	John Cook, ...	American, ..	Brakeman,	19	S.	...	...	Storrs, ...		Killed by car on gangway road. He was riding on the motor, and, in some manner, fell under.
Oct. 4	John Propeck, ...	Russian, ...	Laborer, ..	32	M.	1	2	Dickson, ...		Fatally injured by fall of bell roof at face of chamber.
27	Emery Belshaw, ...	Hungarian, .	Miner, ...	30	M.	1	2	Storrs, ...		Fatally injured by blasting near face of chamber while tamping charge of powder
Nov. 1	Peter Petrofski, ...	Lithuanian,	Laborer, ..	26	S.	....	....	Von Storch, ..		Killed by fall of bell roof near face of chamber.
13	Andrew Schmidt, ...	Polish,.....	Laborer, ..	23	S.	...	....	Clearview, ...		Fatally injured by fall of coal at face of chamber.
Dec. 16	John Barkas, ...	Lithuanian,	Miner, ...	45	M.	1	2	Storrs, ...		Fatally injured by fall of roof at face of chamber while re-standing a prop dislodged by blast.
22	John Groboski, ...	Polish,.....	Miner, ...	28	S.	...	...	Johnson, ...		Fatally injured by fall of roof at face of chamber.

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 22	Thomas Edwards, ...	Welsh,.....	Laborer, ...	35	S.	Von Storch, ...		Foot lacerated by fall of bell roof at face of chamber.
24	John J. Parry, ...	American,..	Driver, ...	17	S.	Eddy Creek, ...		Skull fractured by fall of slip roof on gangway road.
27	Frank Poptovich, ...	Polish,.....	Driver, ...	17	S.	Marvine, ...		Arm fractured by cars on gangway road. He slipped and fell under cars while unhitching.
31	Frank Tuck, ...	Polish,.....	Laborer, ...	30	S.	Storrs, ...		Back injured by blast at face of chamber.
Feb. 3	Michael Wilitis, ...	Polish,.....	Laborer, ...	34	M.	Brisbin, ...		Back injured by fall of bell roof at face of chamber.
11	Frank Jerboski, ...	Lithuanian,	Laborer, ...	48	M.	Legitts Creek, ...		Leg fractured by fall of roof at face of chamber. A piece of roof fell on the gob and slid on him.
21	Matthew Collins, ...	Irish	Miner, ...	30	M.	Storrs, ...		Foot lacerated by machinery at face of chamber. While working with a coal-cutting machine it fell on his foot.
24	Michael Bunshuleski..	Russian, ...	Runner, ...	22	S.	Eddy Creek, ...	Lackawanna..	Ribs fractured by car on gangway road. He was riding on top of car and was caught in door frame.
March 21	James Chefski, ...	Russian, ...	Laborer, ...	23	S.	Legitts Creek, ...		Back contused by fall of bell roof at face of chamber.
	Stanley Thurshitis, ..	Polish,.....	Miner, ...	30	S.	Bulls Head, ...		Burned by powder in chamber. A spark from his light fell into powder and exploded it.
April 5	Samuel Berger, ...	Russian, ...	Driver, ...	26	S.	Eddy Creek, ...		Jaw bone fractured by being struck with a plane rope.
12	John T. Gallagher, ..	American,..	Motorman, ...	19	S.	Legitts Creek, ...		Legs fractured by cars on gangway road. He ran on the wrong road and bumped into a door.
	William Jones, ...	American,..	Runner, ...	21	M.	Cayuga, ...		Pelvis injured by kick from mule on gangway road.
15	Charles Wilcox, ...	American,..	Clerk, ...	60	M.	Von Storch, ...		Ribs fractured by cars. He walked in front of a moving locomotive. Outside.
24	Anthony Stepanovich,.	Russian, ...	Laborer, ...	30	M.	Von Storch, ...		Leg fractured by fall of roof at face of chamber while watching the miner take down roof.

Digitized by Google

CONDITION OF COLLIERIES

DELAWARE AND HUDSON COMPANY (INSIDE)
HUDSON COAL COMPANY (OUTSIDE)

Eddy Creek.—Ventilation and drainage good; condition as to safety good.

Von Storch.—Ventilation good; drainage fair; condition as to safety good.

Dickson.—Ventilation and drainage good; condition as to safety good.

Marvine.—Ventilation and drainage good; condition as to safety good.

Legitts Creek.—Ventilation and drainage good; condition as to safety good.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Storrs.—Ventilation and drainage good; condition as to safety good.

Brisbin.—Ventilation good; drainage fair; condition as to safety good.

Cayuga.—Ventilation good; drainage fair; condition as to safety good.

SCRANTON COAL COMPANY

Johnson.—Ventilation and drainage good; condition as to safety good.

Richmond No. 3.—Ventilation and drainage good; condition as to safety good.

West Ridge.—Ventilation and drainage fair; condition as to safety good.

CLEARVIEW COAL COMPANY

Clearview.—Ventilation and drainage fair; condition as to safety good.

BULLS HEAD COAL COMPANY

Bulls Head.—Ventilation and drainage good; condition as to safety good.

IMPROVEMENTS

DELAWARE AND HUDSON COMPANY (INSIDE)
HUDSON COAL COMPANY (OUTSIDE)
EDDY CREEK COLLIERY:

Eddy Creek Shaft.—A concrete barn was built in the Dunmore vein near the foot of shaft to hold 24 mules. A car haul, steam driven, 180 feet long, was completed in Dunmore vein to handle light cars from foot of shaft and deliver them to water level and No. 25

Digitized by Google

plane and branches. A car haul, steam driven, 140 feet long, is in course of construction in the Clark vein for the same purpose. Extended Rock slope No. 14, 300 feet on pitch of 12 degrees, in Dunmore vein, through big fault from top of Eddy Creek anticlinal into Miles basin. An air shaft, 10 by 10 feet, 40 feet deep, and fan drift 75 feet long were completed, connecting with up-cast of Eddy Creek shaft for proposed emergency fan.

Olyphant Shaft.—A second opening and return airway, 7 by 18 feet, was driven from Clark vein to Rock vein, 700 feet on 28 degree pitch. An intake shaft, 12 by 12 feet, to Rock vein, was sunk through 60 feet of wash at face of No. 25 plane near crop.

Bird Eye.—Extended No. 4 slope 150 feet through fall and graded 1,200 feet of slope in Clark vein.

Olyphant Breaker.—Installed a central power plant, comprising one 1,000 K. V. A., 25 cycle alternating generator, directly connected to a Hamilton-Corliss cross compound engine. The voltage is 2,300, and power will be furnished to mine motors in Archbald, Olyphant and Scranton districts. Steam for the plant is provided by two batteries of Sterling boilers, yielding 1,800 H. P. The whole is housed in a brick and steel structure.

Marvine Colliery.—Extended Rock plane 7 by 12 feet, from 14 foot vein to the Diamond vein 1,000 feet on a pitch of 12 degrees to lower coal to 14 Foot landing at shaft. This plane is operated by a 14 by 20 inch Flory engine, located on surface. Extended Rock plane 400 feet on pitch of 12 degrees from No. 4 Dunmore to No. 3 Dunmore vein. Built a new pump room in Clark vein, 17 by 32 by 11 feet, for locating plant to deliver water to 14 Foot vein level.

Legitts Creek Colliery.—Extended Rock plane from Rock to Diamond vein 350 feet on 12 degree pitch for handling coal in latter vein on northwest end of property.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Storrs Colliery.—Installed one 18 by 6 foot fan, including engine and fan house. Remodeled scales. Added two 5 by 6 inch plunger pumps with motors, and one haulage electric motor with reel.

Brisbin Colliery.—Installed one 18 by 6 foot ventilating fan, including engine and house. Built brick and concrete oil house. Made second opening shaft from four foot to five foot vein.

Cayuga Colliery.—Installed one 7-ton electric motor with reel in Dunmore No. 2 vein.

SCRANTON COAL COMPANY

Johnson Colliery.—Built a hospital, 12 by 14 feet, equipped with steam heat, electric lights, hot and cold water, cots and First Aid outfit.

Richmond No. 3 Colliery.—Built a hospital, 14 by 15 feet, equipped with steam heat, electric lights, hot and cold water and First Aid outfit.

West Ridge Colliery.—Built a hospital, 10 by 12 feet, equipped with steam heat, hot and cold water and First Aid outfit.

Digitized by Google

SUMMARY OF STATISTICS

Number of collieries,	12
Number of mines,	23
Number of mines in operation,	23
Number of tons of coal shipped to market,	2,963,698
Number of tons used at mines for steam and heat,	216,226
Number of tons sold to local trade and used by employes,	99,862
Number of tons produced,	3,279,786
Number of tons produced by compressed air machines,	....
Number of tons produced by electrical machines,	....
Number of persons employed inside of mines,	5,922
Number of persons employed outside,	1,704
Number of fatal accidents inside of mines,	21
Number of fatal accidents outside,	1
Number of non-fatal accidents inside of mines,	44
Number of non-fatal accidents outside,	1
Number of tons of coal produced per fatal accident inside,	156,180
Number of tons produced per fatal accident outside,	3,279,786
Number of tons produced per fatal accident inside and outside,	149,081
Number of persons employed per fatal accident inside,	282
Number of persons employed per fatal accident outside,	1,704
Number of persons employed per fatal accident inside and outside,	347
Number of persons employed per non-fatal accident inside,	135
Number of persons employed per non-fatal accident outside,	1,704
Number of persons employed per non-fatal accident inside and outside,	169
Number of wives made widows,	15
Number of children made orphans,	40
Number of steam locomotives used inside of mines,	....
Number of steam locomotives used outside,	10
Number of compressed air locomotives used inside,	....
Number of compressed air locomotives used outside,	....
Number of electric motors used inside,	26
Number of electric motors used outside,	....
Number of fans in use,	20
Number of furnaces in use,	1
Number of gaseous mines in operation,	10
Number of non-gaseous mines in operation,	13
Number of new mines opened,	....
Number of old mines abandoned,	....

Digitized by Google

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Pennsylvania Coal Company,	1,017,248
Delaware, Lackawanna and Western Railroad Company,	584,294
Scranton Coal Company,	651,010
Price-Pancoast Coal Company,	637,407
Green Ridge Coal Company,	100,137
Spencer Coal Company,	83,660
Nay Aug Coal Company,	80,990
Hudson Coal Company,	67,362
Economy Light, Heat and Power Company,	29,115
Carney and Brown Coal Company,	21,782
No. 6 Coal Company,	6,781
Total,	3,279,786

Production by Counties

Lackawanna,	3,279,786

Digitized by Google

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	1	2	1	1	1	1	1	....	1	1	1	....	11
Miners' laborers,	....	....	2	....	....	....	....	1	....	1	....	....	4
Drivers and runners,	....	....	....	....	....	....	1	1	....	....	1	....	3
Doorboys and helpers,	....	1	....	....	....	....	....	....	....	....	....	....	1
Company men,	....	....	....	....	....	....	....	1	1	....	....	....	2
Totals,	1	3	3	1	1	1	2	3	2	2	2	....	21
Outside													
Foremen,	....	1	....	....	....	....	....	....	....	....	....	....	1
Totals,	....	1	....	....	....	....	....	....	....	....	....	....	1
Grand totals inside and outside,	1	4	3	1	1	1	2	3	2	2	2	....	22

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	2	1	2	1	1	....	1	2	1	4	1	2	15
Miners' laborers,	1	....	1	....	1	1	1	....	2	....	....	....	7
Drivers and runners,	2	....	2	1	2	1	1	3	....	....	....	1	13
Doorboys and helpers,	....	....	....	....	....	....	....	....	....	1	....	....	1
Company men,	....	1	....	....	....	....	1	....	....	....	....	....	2
Electricians,	....	....	1	....	....	....	....	....	....	....	....	....	1
Tracklayers,	....	....	....	....	1	....	....	....	....	....	....	....	1
Contractors,	....	....	....	....	....	....	....	....	....	....	....	1	1
Totals,	5	2	6	2	5	2	4	5	3	5	1	4	44
Outside													
Headmen,	....	....	....	....	....	....	....	1	....	....	....	....	1
Totals,	....	....	....	....	....	....	....	1	....	....	....	....	1
Grand totals inside and outside,	5	2	6	2	5	2	4	6	3	5	1	4	45

Digitized by Google

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	....	1	....	....	....	....	....	1	....	1	....	....	3
Irish,	....	1	....	1	....	....	....	....	2	....	1	....	5
Polish,	....	....	2	....	....	1	....	1	....	....	....	....	4
Hungarian,	....	1	....	....	....	....	1	....	....	....	....	....	2
Italian,	1	1	....	....	....	....	....	....	....	....	....	....	2
Slavonian,	....	....	....	....	1	....	....	1	....	....	1	....	3
Lithuanian,	....	....	....	....	....	....	1	....	....	1	....	....	2
Tyrolean,	....	....	1	....	....	....	....	....	....	....	....	....	1
Totals,	1	4	3	1	1	1	2	3	2	2	2	....	22

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	1	1	1	1	....	....	....	1	....	....	....	....	5
English,	....	....	....	....	....	....	....	....	....	....	1	....	1
Irish,	....	1	1	....	....	1	2	....	....	....	....	1	6
German,	....	....	....	....	....	....	....	....	....	....	....	1	1
Polish,	1	....	2	....	1	....	1	2	....	3	....	....	10
Hungarian,	....	....	....	....	....	....	1	....	....	....	....	....	1
Italian,	....	....	....	....	1	....	....	....	1	....	....	2	4
Slavonian,	1	....	....	....	1	....	....	2	....	1	....	....	5
Lithuanian,	1	....	1	....	....	....	....	....	1	1	....	....	4
Austrian,	....	....	1	....	....	....	....	....	....	....	....	....	1
Russian,	1	....	....	1	2	1	....	1	1	....	....	....	7
Totals,	5	2	6	2	5	2	4	6	3	5	1	4	45

Digitized by Google

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Pennsylvania Coal Co. Pennsylvania Nos. 1 and 5, .. Underwood,*	Lackawanna,.	Joseph P. Jennings,..	Scranton, ...	Jesse Palmer, ...	Dunmore, ...	Erie
Delaware, Lackawanna and Western Railroad Co. Diamond, ... Manville, ... Diamond Washery, ...	Lackawanna,.	C. E. Tobey, ...	Scranton, ...	Walter J. Reese, ... George J. Wethers,..	Scranton, ... Scranton, ...	D. L. and W.
Scranton Coal Co. Pine Brook, ... Mount Pleasant, ...	Lackawanna,.	W. L. Allen, ...	Peckville, ...	Daniel Young, Inside, J. F. Cummings, Outside,	Scranton, ...	O. and W.
Price-Pancoast Coal Co. Pancoast, ...	Lackawanna,.	John R. Bryden, ...	Scranton, ...	Joseph V. Birtley, ..	Scranton, ...	D. L. and W. and O. and W.
Green Ridge Coal Co. Green Ridge, ...	Lackawanna,.	W. L. Connell, ...	Scranton, ...	W. L. Connell, ...	Scranton, ...	Erie and D. and H.
Spencer Coal Co. Spencer, ...	Lackawanna,.	A. J. McHale, ...	Dunmore, ...	A. J. McHale, ...	Dunmore, ...	Erie
Nay Aug Coal Co. Nay Aug, ...	Lackawanna,.	E. H. Leaning, ...	Scranton, ...	John A. Hines, ...	Scranton, ...	Erie
Hudson Coal Co. Manville, ...	Lackawanna,.	C. C. Rose, ...	Scranton, ...	E. R. Pettebone, ...	Dorranceton, ...	D. and H.
Economy Light, Heat and Power Co. Economy Washery, ...	Lackawanna,.	.....	.....	R. Van O'Linda, ...	Scranton, ...	D. and H.
Carney and Brown Coal Co. Carney and Brown, ...	Lackawanna,.	John Carney, ...	Dunmore, ...	John J. Brown, ...	Dunmore, ...	D. L. and W.
No. 6 Coal Co. 6, ...	Lackawanna,.	William Y. Moffatt,..	Dunmore, ...	William Y. Moffatt,..	Dunmore, ...	None

*New mine not yet in operation.

Digitized by Google

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dyuamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives: Number of pounds of powder used	Explosives: Number of pounds of dynamite used	Explosives: Number of pounds of permissible explosives used	Number of horses and mules
Pennsylvania Coal Co.													
Pennsylvania No. 1,	Lackawanna,	627,323	40,366	2,238	669,927	303	1,291	1	4	761,350	.....	25,292	91
Pennsylvania No. 5,		328,341	9,673	9,307	347,321	295	617	2	3	312,550	.....	10,842	54
Underwood,		.....	.....	.....	.....	.....	323	.....	.....	.....	.....	.....	14
Totals,		955,664	50,039	11,545	1,017,248	.....	2,231	3	7	1,073,900	.....	36,134	159
Delaware, Lackawanna and Western Railroad Co.													
Diamond,	Lackawanna,	480,726	3,915	.....	484,641	234	1,199	3	4	659,900	57,831	.....	156
Manville,		54,785	16,049	819	71,653	102	452	4	7	185,550	14,326	.....	49
Diamond Washery,		23,483	4,517	.....	28,000	72	50	.....	.....	100	10	.....	2
Totals,		558,994	24,481	819	584,294	.....	1,701	7	11	845,550	72,167	.....	207
Scranton Coal Co.													
Pine Brook,	Lackawanna,	438,101	27,950	5,417	471,468	218	1,055	2	.....	660,000	20,600	.....	107
Mount Pleasant,		154,972	22,500	2,070	179,542	179	387	5	3	299,850	10,650	.....	42
Totals,		593,073	50,450	7,487	651,010	.....	1,442	7	3	959,850	31,250	.....	149
Price-Pancoast Coal Co.													
Pancoast,	Lackawanna,	578,150	54,750	4,507	637,407	258	1,439	4	18	890,550	13,200	.....	115

Digitized by Google

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside											Outside								Grand total inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Poorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	
Pennsylvania Coal Co., Delaware, Lackawanna and Western Railroad Co.,	Lackawanna,	5	12	1	476	538	129	21	6	259	142	1,599	1	3	100	34	96	29	*3	375	632	2,231
Scranton Coal Co.,		5	...	12	468	590	169	27	9	189	6	1,385	1	4	15	43	54	25	7	167	316	1,701
Price Pancoast Coal Co.,		2	3	8	384	382	232	51	11	....	152	1,175	...	2	17	28	56	68	3	104	267	1,442
Green Ridge Coal Co.,		3	2	9	333	362	191	73	7	68	149	1,187	1	1	8	28	66	36	6	111	252	1,439
Spencer Coal Co.,		1	...	1	66	58	35	....	....	7	8	165	1	1	7	9	15	....	5	34	72	237
Nay Aug Coal Co.,		1	1	....	44	60	20	....	2	....	16	134	1	1	4	13	5	2	2	45	73	207
Hudson Coal Co.,*		1	1	....	72	88	22	....	....	7	....	191	1	1	2	3	4	2	4	18	35	226
Economy Light, Heat and Power Co.,		....	....	....	.....	.....	....	....	....	....	....	.....	...	1	..	....	....	....	....	.....	.....	.....
Carney and Brown Coal Co.,		....	....	....	.....	.....	....	....	....	....	....	.....	...	1	2	4	12	....	1	15	36	100
No. 8 Coal Co.,		1	2	....	21	21	8	....	....	5	6	64	1	1	....	....	3	....	1	4	9	31
		1	....	....	8	8	4	1	....	....	....	22	...	1	....	....	....	....	1	....	....	....
Totals,		20	21	31	1,861	1,947	810	183	36	535	479	5,922	7	16	156	157	311	143	31	884	1,704	7,626

*Included in report of Delaware, Lackawanna and Western Railroad Co.

Digitized by Google

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Pennsylvania Coal Co.,	Lacakawanna,	26	23	25	24	26	25	25	26	25	25	24	25	299
Delaware, Lackawanna and Western Railroad Co.,		22	17	1	19	22	19	21	19	21	21	21	20	223
Scranton Coal Co.,		18	16	17	16	17	17	18	12	18	18	16	16	199
Price-Pancoast Coal Co.,		23	21	21	22	22	22	22	21	23	22	20	19	258
Green Ridge Coal Co.,		17	16	16	16	16	16	15	16	15	16	15	15	189
Spencer Coal Co.,		26	21	25	24	24	18	23	23	21	26	22	26	279
Nay Aug Coal Co.,		26	24	16	25	26	26	26	26	25	26	24	26	295
Hudson Coal Co.,		18	.....	16	.....	18	.....	13	.....	11	.....	17	.....	93
Carney and Brown Coal Co.,		21	18	16	7	.....	.....	.....	18	17	18	17	19	151
No. 6 Coal Co.,		26	23	21	22	7	.....	.....	.....	.....	14	20	25	158

Digitized by Google

TABLE 5.—Continued

Date of Injury	Name of Person	Nationality	Occupation	Age	Married or Single	Name of Colliery	County	Nature and Cause of Accident in Brief
May	[illegible] Hanusek,	Slavonian,	Trackla[illegible]	28	M.	Pancoast,	Lackawanna,	Jaw dislocated by mine cars on main road.
June	[illegible] Michael Pigil,	Russian,	Runner,	19	S.	Diamond,		Ankle dislocated by mine cars on main road.
	[illegible] Stanley Shishefsky,	Irish,	Laborer,	26	S.	Pennsylvania No. 1,		Leg fractured and arm bruised by fall of roof at face.
July	[illegible] John Duggan,	Irish,	Company man,	30	M.	Pennsylvania No. 5,		Pelvis fractured by fall of roof on main road.
	[illegible] Thomas Kelly,	Irish,	Miner,	60	M.	Green Ridge,		Leg fractured by fall of roof at face.
	[illegible] Joseph Janosky,	Polish,	Runner,	21	S.	Pancoast,		Leg fractured by mine cars on main road.
	[illegible] Frank Chesney,	Hungarian,	Laborer,	34	M.	Pancoast,		Seriously injured by fall of roof at face. Concealed slips in roof.
Aug	[illegible] Joseph Galantina,	Polish,	Miner,	50	M.	Manville,		Scalp lacerated and hip bruised by premature blast at face.
	[illegible] Frank Hosak,	Slavonian,	Driver,	17	S.	Pancoast,		Arm fractured. Kicked by mule in chamber.
	[illegible] Charles Rufa,	Slavonian,	Miner,	34	M.	Manville,		Scalp and back injured between mine car and gob in chamber.
	[illegible] Frank Yuhnyak,	Polish,	Driver,	18	S.	Pancoast,		Head and back injured by mine cars on main road.
	[illegible] Albert Worley,	American,	Runner,	25	S.	Diamond,		Skull fractured between derailed car and timber at face of chamber.
	[illegible] Walter Hinsenvith,	Russian,	Headman,	20	S.	Pancoast,		Leg injured while removing mine car from cage on head of breaker. Outside.
Sept.	8 Jacob Kupsky,	Lithuanian,	Miner,	28	S.	Diamond,		Knee squeezed by mine cars while temporarily engaged at foot of shaft.
	9 Guiseppi Vetalie,	Italian,	Laborer,	21	S.	Nay Aug.,		Leg fractured by fall of top coal at face.
	20 John Kupsinsky,	Russian,	Laborer,	43	S.	Pancoast,		Leg fractured by fall of roof at face.
Oct.	10 Frank Mandchalki,	Polish,	Miner,	42	M.	Pennsylvania No. 1,		Arm fractured by fall of coal at face.
	13 Roger Mackiwiers,	Polish,	Miner,	33	M.	Pancoast,		Face and hands severely burned by powder becoming ignited while charging hole at face.
	18 John Duggan,	Lithuanian,	Miner,	42	S.	Manville,		Face and scalp lacerated by fall of roof while replacing dislodged timber at face.
	29 John Charnick,	Slavonian,	Doortender,	52	M.	Pancoast,		Head injured by mine cars on main road.
	George Forsenavage,	Polish,	Miner,	37	M.	Pennsylvania No. 1,		Arm broken by fall of roof at face.

Digitized by Google

Nov.	11	Steve Nicholls, ...	English, ...	Miner, ...	40	M.	Pancoast, ...	Lackawanna,	Spine injured by fall of coal in pillar place.
Dec.	9	John Haggerty, ...	Irish, ...	Miner, ...	49	M.	Spencer, ...		Leg broken by fall of coal in pillar place.
	12	Carl Pilger, ...	German, ...	Runner, ...	22	S.	Pancoast, ...		Collar bone fractured by mine car at face.
	18	Leo Round, ...	Italian, ...	Contractor, ...	42	M.	Pennsylvania No. 1, ...		Arm broken by fall of roof at face.
	24	Frank Johnson, ...	Italian, ...	Miner, ...	25	S.	Spencer, ...		Finger severed by mine car on main road.

Digitized by Google

not only acts as a second opening, but also improves the ventilation. An air bridge or air "cross over" was cut in the rock in the west tunnel section in the Dunmore No. 1 vein, 6 by 12 feet by 37 feet, which gives an additional split of air in that section.

Mount Pleasant Colliery.—A rock plane from the 3rd or China vein to No. 1 Dunmore vein has been driven and fully equipped.

PRICE-PANCOAST COAL COMPANY

Pancoast Colliery.—Installed one steam duplex pump, 28 by 14 by 24 feet in No. 3 vein to pump water to surface. Steel support substituted for timber on foot branch in Dunmore vein.

A rock tunnel 90 feet long was made from Clark to New County vein for ventilation and second opening.

Engine plane 1,000 feet long was made from Clark into New County vein for transportation.

Installed one double inlet Jeffrey exhaust mine fan 20 by 7 feet, and one 28 by 28 inch Ridgway engine.

A surface hospital has been provided.

SPENCER COAL COMPANY

Spencer Colliery.—No. 1 and No. 2 shafts have been retimbered and a new tower built at No. 2 shaft. The tower at No. 1 shaft was cut down 20 feet during the year.

A surface hospital has been built, the washery retimbered and a new 125 H. P. engine installed in the washery to replace four small engines.

NAY AUG COAL COMPANY

Nay Aug Colliery.—Installed a 100-ton loading scale, jigs for egg, stove and nut coal, and new grates, blowers and boilers. A new washhouse has also been built.

CARNEY AND BROWN COAL COMPANY

Carney and Brown Colliery.—A rock tunnel was driven through 150 feet of fault in the Clark vein.

Digitized by Google

FOURTH DISTRICT

LACKAWANNA COUNTY

Scranton, Pa., February 14, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit my report as Inspector of Mines for the Fourth Anthracite District, for the year ending December 31, 1913.

Respectfully submitted,

J. T. REESE, Inspector.

Digitized by Google

SUMMARY OF STATISTICS

Number of collieries,	13
Number of mines,	34
Number of mines in operation,	34
Number of tons of coal shipped to market,	3,808,356
Number of tons used at mines for steam and heat,	141,400
Number of tons sold to local trade and used by employes,	143,819
Number of tons produced,	4,093,575
Number of tons produced by compressed air machines,	....
Number of tons produced by electrical machines,	....
Number of persons employed inside of mines,	6,800
Number of persons employed outside,	1,646
Number of fatal accidents inside of mines,	20
Number of fatal accidents outside,	5
Number of non-fatal accidents inside of mines,	78
Number of non-fatal accidents outside,	4
Number of tons of coal produced per fatal accident inside,	204,679
Number of tons produced per fatal accident outside,	818,715
Number of tons produced per fatal accident inside and outside,	163,743
Number of persons employed per fatal accident inside,	340
Number of persons employed per fatal accident outside,	329
Number of persons employed per fatal accident inside and outside,	338
Number of persons employed per non-fatal accident inside,	87
Number of persons employed per non-fatal accident outside,	412
Number of persons employed per non-fatal accident inside and outside,	103
Number of wives made widows,	20
Number of children made orphans,	45
Number of steam locomotives used inside of mines,	....
Number of steam locomotives used outside,	8
Number of compressed air locomotives used inside,	....
Number of compressed air locomotives used outside,	....
Number of electric motors used inside,	96
Number of electric motors used outside,	7
Number of fans in use,	24
Number of furnaces in use,	....
Number of gaseous mines in operation,	21
Number of non-gaseous mines in operation,	13
Number of new mines opened,	....
Number of old mines abandoned,	....

Digitized by Google

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Delaware, Lackawanna and Western Railroad Company, ..	3,212,486
Hudson Coal Company, ...	268,898
Scranton Coal Company, ...	218,167
Thorne-Neale Washery Company, ...	151,196
Peoples Coal Company, ...	138,607
South Side Coal Company, ...	63,212
Premier Coal Company, ...	27,566
Carleton Coal Company, ...	8,372
Minooka Coal Company, ...	5,071
Total, ...	4,093,575

Production by Counties

Lackawanna, ...	4,093,575

Digitized by Google

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Delaware, Lackawanna and Western Railroad Co.,	16	3	19	51	3	54	200,780	68,990	5,294	1,093	6,287	331	364	104	364
Hudson Coal Co.,	.....	1	1	8	1	9	268,898	32,612	642	208	850	.....	208	80	208
Scranton Coal Co.,	2	.....	2	6	.....	6	109,083	36,361	478	101	579	239	.....	80	.....
Thorne-Neale Washery Co.,	.....	1	1	.....	.....	.....	.....	.....	.....	50	50	.....	50	.....	.....
Peoples Coal Co.,	2	.....	2	13	.....	13	69,304	10,662	323	100	423	162	.....	25	.....
Miscellaneous Companies,	.....	.....	.....	.....	.....	.....	.....	.....	63	94	157	.....	.....	.....	.....
Totals and averages for district, ...	20	5	25	78	4	82	204,679	52,481	6,800	1,646	8,446	340	329	87	412

Digitized by Google

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	....	....	....	....	....	....	....	....	1	....	....	....	1	5.00
Falls of roof,	1	1	2	1	....	1	1	....	....	1	....	1	9	45.00
Mine cars,	....	....	....	....	....	....	....	2	....	1	....	....	3	15.00
Explosions of gas,	1	....	....	....	....	....	1	....	....	....	....	....	2	10.00
Suffocation by gas, etc.,	....	....	....	....	....	....	....	....	....	1	....	....	1	5.00
Explosions of powder and dynamite,	....	....	....	....	....	....	....	1	....	....	....	....	1	5.00
Gasts, premature and otherwise,	....	....	1	1	....	....	....	....	....	....	1	....	3	15.00
Totals,	2	1	3	2	....	1	2	3	1	3	1	1	20	100.00
Causes of Accidents Outside														
Cars,	....	1	....	1	....	....	....	....	....	....	....	....	2	40.00
Machinery,	....	1	....	....	....	....	....	....	....	....	....	....	1	20.00
Struck by cage,	....	....	....	....	....	....	....	....	....	1	....	....	1	20.00
Struck by iron post,	....	....	....	....	1	....	....	....	....	....	....	....	1	20.00
Totals,	....	2	....	1	1	....	....	....	....	1	....	....	5	100.00
Grand totals inside and outside,	2	3	3	3	1	1	2	3	1	4	1	1	25	.....

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	....	....	1	1	....	....	....	....	....	....	1	....	3	3.85
Falls of slate,	1	....	....	....	....	....	....	....	2	....	....	....	3	3.85
Falls of roof,	1	1	2	3	....	3	1	2	2	3	5	1	24	30.77
Mine cars,	....	2	1	3	3	2	....	1	3	2	1	1	19	24.36
Explosions of gas,	2	....	....	1	1	....	....	1	....	....	2	....	7	8.98
Explosions of powder and dynamite,	....	....	....	....	1	....	....	....	....	....	....	....	1	1.28
Gasts, premature and otherwise,	1	2	1	1	....	1	2	1	....	1	....	....	10	12.82
Falling into chamber,	....	....	....	....	....	....	....	....	....	....	....	1	1	1.28
Machinery,	....	....	....	....	....	....	....	....	....	....	....	1	1	1.28
Miles,	1	....	1	....	....	....	1	....	....	....	....	....	3	3.85
Struck by door,	....	....	....	....	....	1	....	....	....	....	....	....	1	1.28
Struck by cage,	....	....	....	1	....	....	....	....	....	....	....	....	1	1.28
Struck by rope,	....	....	1	....	....	....	....	....	....	....	....	....	1	1.28
Struck by pipe,	....	1	....	....	....	....	....	....	....	....	....	....	1	1.28
Struck by timber,	1	....	....	....	....	....	....	....	....	....	1	....	2	2.56
Totals,	7	6	7	10	5	7	4	5	7	6	10	4	78	100.00
Causes of Accidents Outside														
Cars,	....	....	....	....	....	....	....	....	1	....	....	....	1	25.00
Machinery,	....	....	....	....	....	1	....	....	....	....	....	....	1	25.00
Falling,	....	....	....	....	....	....	....	....	....	1	....	....	1	25.00
Miles,	....	1	....	....	....	....	....	....	....	....	....	....	1	25.00
Totals,	....	1	....	....	....	1	....	....	1	1	....	....	4	100.00
Grand totals inside and outside,	7	7	7	10	5	8	4	5	8	7	10	4	82	.....

Digitized by Google

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	1	1	3	1	....	1	1	1	1	1	1	....	12
Miners' laborers,	1	....	....	1	....	....	....	....	....	....	....	....	2
Drivers and runners,	....	....	....	....	....	....	....	....	....	1	....	1	2
Rockmen,	....	....	....	....	....	....	....	....	....	1	....	....	1
Company men,	....	....	....	....	....	....	....	1	....	....	....	....	1
Brakemen,	....	....	....	....	....	....	....	1	....	....	....	....	1
Track layers,	....	....	....	....	....	....	1	....	....	....	....	....	1
Totals,	2	1	3	2	....	1	2	3	1	3	1	1	20
Outside													
Foremen,	....	1	....	....	....	....	....	....	....	....	....	....	1
Blacksmiths and carpenters,	....	....	....	....	....	....	....	....	....	1	....	....	1
Slatepickers, (boys)	....	1	....	....	....	....	....	....	....	....	....	....	1
Laborers,	....	....	....	....	1	....	....	....	....	....	....	....	1
Runners,	....	....	....	1	....	....	....	....	....	....	....	....	1
Totals,	....	2	....	1	1	....	....	....	....	1	....	....	5
Grand totals inside and outside,	3	3	3	3	1	1	2	3	1	4	1	1	25

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	3	2	2	3	3	4	2	2	3	2	6	1	33
Miners' laborers,	1	2	2	4	1	2	1	3	3	3	4	....	24
Drivers and runners,	1	....	2	2	....	....	1	....	....	1	....	1	8
Doorboys and helpers,	....	....	....	....	....	1	....	....	....	....	....	....	1
Carpenters,	....	....	....	....	....	....	....	....	....	....	....	1	1
Brakemen,	....	1	....	....	....	....	....	....	....	....	....	....	1
Company men,	....	1	....	1	....	....	....	....	....	....	....	1	3
Motormen,	....	....	....	....	1	....	....	....	1	....	....	....	2
Rockmen,	....	....	1	....	....	....	....	....	....	....	....	....	1
Masons,	2	....	....	....	....	....	....	....	....	....	....	....	2
Totals,	7	6	7	10	5	7	4	5	7	6	10	4	76
Outside													
Blacksmiths and carpenters,	....	....	....	....	....	1	....	....	....	....	....	....	1
Drivers,	....	....	....	....	....	....	....	....	....	1	....	....	1
Laborers,	....	1	....	....	....	....	....	....	1	....	....	....	2
Totals,	....	1	....	....	....	1	....	....	1	1	....	....	4
Grand totals inside and outside,	7	7	7	10	5	8	4	5	8	7	10	4	80

Digitized by Google

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	....	2	....	1	....	....	....	2	....	2	....	1	8
Welsh,	....	....	....	....	....	....	....	....	....	1	....	....	1
Irish,	....	....	2	....	....	....	1	....	1	1	....	....	5
German,	....	....	....	....	1	....	....	....	....	....	1	....	2
Polish,	1	1	....	2	....	....	1	1	....	....	....	....	6
Lithuanian,	1	....	....	....	....	....	....	....	....	....	....	....	1
Swedish,	....	....	....	....	....	1	....	....	....	....	....	....	1
French,	....	....	1	....	....	....	....	....	....	....	....	....	1
Totals,	2	3	3	3	1	1	2	3	1	4	1	1	25

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	3	3	2	....	....	2	....	1	1	1	1	2	16
English,	1	....	....	....	....	....	....	....	....	2	....	....	3
Welsh,	....	1	2	....	....	1	1	....	....	....	....	1	6
Irish,	1	....	....	1	1	....	....	....	2	....	1	1	7
Polish,	....	2	....	8	2	5	3	3	3	3	5	....	34
Italian,	2	....	2	....	....	....	....	1	....	....	2	....	7
Slavonian,	....	1	....	....	....	....	....	....	....	1	....	....	2
Lithuanian,	....	....	1	1	2	....	....	....	2	....	....	....	6
Swedish,	....	....	....	....	....	....	....	....	....	....	1	....	1
Totals,	7	7	7	10	5	8	4	5	8	7	10	4	82

Digitized by Google

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Delaware, Lackawanna and Western Railroad Co.															
Bellevue Colliery:															
Bellevue,	Shaft,	Gaseous,	Fan,	16	4.5	4.5	126	1.1	Guibal,	Steam,	10	97,241	91,008	101,647	320
Bellevue,	Shaft,			14	4.0	4.0	112	.9			7	71,750	63,540	80,730	
Bellevue,	Slope,			14	4.0	4.0	112	.7			2	80,040	71,870	90,575	
Archbald Colliery:															
Archbald,	Shaft,	Gaseous,	Fan,	24	8	6	66	1.8	Guibal,	Steam,	18	224,940	238,430	271,700	832
Archbald,	Slope,	Gaseous,	Fan,	12	4	4	100	1.0	Open,	Steam,					
Sloan Colliery:															
Sloan,	Shaft,	Gaseous,	Fan,	24	8	6	70	2.1	Guibal,	Steam,	8	161,305	151,285	166,380	401
Sloan (Surface Vein),	Shaft,														
Sloan,	Slope,	Non-gas.,	Fan,	24	8	6	70	2.	Guibal,	Steam,	7	150,120	115,960	151,000	219
Central,	Shaft,	Gaseous,	Fan,	24	8	6	70	2.1	Guibal,	Steam,	7	134,880	128,400	137,400	205
Hyde Park Colliery:															
Hyde Park,	Shaft,	Gaseous,	Fan,	24	8	6	66	1.4	Guibal,	Steam,	11	182,900	126,900	198,300	464
Hyde Park (Central Vein),	Shaft,	Gaseous,	Fan,	14	4.5	4	116	1.3	Open,	Electricity,	4	35,300	32,800	40,800	60
Hyde Park (Surface Vein),	Slope,	Non-gas.,	Fan,	14	4.5	4	81	.75	Guibal,	Electricity,	5	87,650	71,240	96,850	148
Dodge Colliery:															
Dodge,	Shaft,	Gaseous,	Fan,	25	8	6.6	58	1.4	Vulcan,	Steam,	6	116,846	102,922	178,063	456
Dodge,	Slope,	Non-gas.,	Fan,	15	3.6	3	66	.7	Guibal,	Steam,	4	50,573	42,582	64,040	103
National Colliery:															
National,	Shaft,														
National,	Drift,	Gaseous,	Fan,	25	8	7	60	1.1	Guibal,	Steam,	9	174,200	159,400	195,400	538
National,	Slope,														
National,	Drift,	Gaseous,	Fan,	8	2.8	2.2	90	.5	Guibal,	Electricity,	1	12,000	11,000	12,500	

Digitized by Google

Continental Colliery:																
Continental, ...	Shaft,.....	Gaseous,..	Fan, ...	24	8	.6	70	2.0	Gulbal, ...	Steam,.....	10	174,975	176,000	186,125	529
Holden Colliery:																
Holden, ...	Shaft,.....	Gaseous,..	Fan, ...	25	8	6	56	1.1	Gulbal, ...	Steam,.....	7	138,738	126,610	143,466	343
Hudson Coal Co.																
Greenwood Colliery:																
Greenwood No. 1 (New),	Shaft,.....	Gaseous,..	Fan, ...	17	5	5	75	.4	Gulbal, ...	Steam,.....	2	29,900	27,500	32,450	112
Greenwood No. 1 (Old),	Shaft,.....	Non-gas.,.	Natural,..	.....	.....	.....	.....	.....	.....	.....	..	29,800	27,900	31,900	115
Greenwood Nos. 1 and 2,	Slope, ...	Non-gas.,.	Fan, ...	14	4	4	80	.4	Gulbal, ...	Steam,.....	..	29,900	27,100	33,300	91
Greenwood Nos. 1 and 2,	Drift, ...	Non-gas.,.	Natural,..	.....	.....	.....	.....	.....	.....	.....	..	32,700	30,700	34,900	44
Greenwood No. 8, ...	Drift, ...	Non-gas.,.	Natural,..	.....	.....	.....	.....	.....	.....	.....	..	18,400	17,400	19,100	80
Greenwood No. 11, ...	Drift, ...	Non-gas.,.	Natural,..	.....	.....	.....	.....	.....	.....	.....	..	9,100	8,500	10,200	30
Greenwood No. 12, ...	Shaft,.....	Gaseous,..	Fan, ...	17	5	5	75	.7	Gulbal, ...	Steam,.....	2	45,700	40,800	52,880	102
Greenwood No. 16, ...	Drift, ...	Non-gas.,.	Fan, ...	11	3.25	2.5	70	.3	Gulbal, ...	Steam,.....	..	15,000	14,040	16,500	37
Greenwood No. 14, ...	Drift, ...	Non-gas.,.	Natural,..	.....	.....	.....	.....	.....	.....	.....	..	9,600	8,250	11,700	29
Scranton Coal Co.																
Capouse Colliery:																
Capouse No. 2, ...	Shaft,.....	Gaseous,..	Fan, ...	20	5	5.6	75	1 }	Gulbal, ...	Steam,.....	9	140,000	135,000	152,500	478
Capouse No. 1, ...	Shaft,.....	Gaseous,.	Fan, ...	18	4.10	5	80	1 }							
Peoples Coal Co.																
Oxford Colliery:																
Oxford, ...	Shaft,.....	Gaseous,..	Fan, ...	16	6	5	95	.7	Vulcan, ...	Steam,.....	9	112,000	112,000	120,000	323
Carleton Coal Co.																
Carleton Colliery:																
Carleton, ...	Drift, ...	Non-gas.,.	Natural,..	.....	.....	.....	.....	.....	.....	.....	5	27,000	26,400	29,000	31
Minooka Coal Co.																
Minooka Colliery:																
Minooka, ...	Drift, ...	Non-gas.,.	Natural,..	.....	.....	.....	.....	.....	.....	.....	2	15,341	14,160	16,230	20

Digitized by Google

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons, employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives: Number of pounds of powder used	Explosives: Number of pounds of dynamite used	Explosives: Number of pounds of permissible explosives used	Number of horses and mules
Delaware, Lackawanna and Western Railroad Co.													
Bellevue,	Lackawanna	553,452	400	28,398	582,250	286	965	5	6	645,300	23,455	.....	44
Archbald,		491,194	13,645	86	504,925	289	969	2	7	614,000	8,175	.....	97
Sloan,		423,760	192	467	424,419	256	1,062	5	11	657,950	59,240	.....	29
Hyde Park,		310,368	24	25,007	335,399	267	798	2	7	591,750	47,100	.....	39
Dodge,		293,832	12	.....	293,844	257	674	1	11	466,150	32,353	.....	40
National,		276,676	12,399	4,426	293,501	291	700	1	4	460,450	28,607	.....	66
Continental,		234,066	52	2,181	236,299	295	647	1	4	312,225	19,972	.....	67
Holden,		218,770	13,283	2,037	234,090	284	426	1	4	296,575	11,030	.....	27
		2,802,118	40,007	62,602	2,904,727	.....	6,241	18	54	4,044,400	229,932	.....	409
Washeries													
Archbald,		165,513	6,800	.....	172,313	197	58	.....	.....	.....	.....	.....	.....
Hyde Park,		80,259	.....	.....	80,259	293	29	.....	.....	.....	.....	.....	.....
Hampton,		55,187	.....	.....	55,187	63	53	.....	.....	.....	.....	.....	.....
Water Shaft,		.....	.....	.....	.....	.....	6	1	.....	.....	.....	.....	.....
		300,959	6,800	.....	307,759	.....	146	1	.....	.....	.....	.....	.....
Totals,		3,103,077	46,807	62,602	3,212,486	.....	6,387	19	54	4,044,400	229,932	.....	409

Digitized by Google

Hudson Coal Co.													
Greenwood,	Lackawanna	219,287	43,625	2,508	265,420	149	850	1	9	19,301	74,643	.....	117
Greenwood Washery,		2,145	1,333	.....	3,478	7							
Totals,	.....	221,432	44,958	2,508	268,898	.....	850	1	9	19,301	74,643	.....	117
Scranton Coal Co.													
Capouse,	Lackawanna,	191,673	23,500	2,994	218,167	183	579	2	6	281,250	22,500	.....	63
Thorne-Neale Washery Co.													
Minooka Washery,	Lackawanna,	132,804	18,250	142	151,196	281	50	1	.....	.....	.....	.....	1
Peoples Coal Co.													
Oxford,	Lackawanna,	62,560	7,846	68,201	138,607	217	423	2	13	9,500	12,600	.....	71
South Side Coal Co.													
South Side Washery,	Lackawanna,	63,188	24	.....	63,212	237	50	.....	.....	.....	.....	.....	1
Premier Coal Co.													
Premier Washery,	Lackawanna,	27,551	15	.....	27,566	156	22	.....	.....	.....	.....	.....	22
Carleton Coal Co.													
Carleton,	Lackawanna,	1,000	.....	7,372	8,372	191	42	.....	.....	8,125	650	.....	5
Minooka Coal Co.													
Minooka,	Lackawanna,	5,071	.....	.....	5,071	149	43	.....	.....	.....	.....	.....	5
Grand totals.	.....	3,808,356	141,400	143,819	4,093,575	.....	8,446	25	82	4,362,576	340,325	.....	672

Digitized by Google

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Delaware, Lackawanna and Western Railroad Co.,	Lackawanna,..	25	22	15	24	25	23	24	24	23	24	22	21	272
Hudson Coal Co.,		14	13	13	13	12	12	12	13	12	10	12	13	149
Scranton Coal Co.,		17	13	15	15	16	16	14	15	15	17	14	16	183
Peoples Coal Co.,		22	21	19	16	17	17	18	17	16	17	18	19	217
Carleton Coal Co.,		18	9	9	7	12	18	17	11	22	22	22	24	191
Minooka Coal Co.,		12	15	9	10	11	13	9	8	17	10	15	20	149

Digitized by Google

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 4	John Spiko, ...	Polish,.....	Laborer, ...	23	S.	....	....	Oxford, ...	Lackawanna,..	Fatally burned by explosion of gas in chamber.
6	Frank Pitkua, ...	Lithuanian,	Miner, ...	54	M.	1	3	Capouse, ...		Killed by fall of roof at face of chamber.
Feb. 8	Otto Fritz, ...	American,..	Foreman, ...	25	M.	1	3	Minooka, ...		Killed by machinery while oiling it when in motion. Outside.
10	John Coyne, ...	American,..	Slate picker,	14	S.	....	....	Greenwood, ...		Fatally injured by cars. Outside.
12	Frank Pachele, ...	Polish,.....	Miner, ...	38	M.	1	4	Bellevue, ...		Instantly killed by fall of roof in chamber.
March 19	Mike Barlow, ...	French,.....	Miner, ...	56	M.	1	3	Bellevue, ...		Fatally injured by blast at face of chamber.
22	John Manley, ...	Irish, ...	Miner, ...	53	M.	1	3	Bellevue, ...		Killed by fall of roof at face of gangway.
28	William Kelley, ...	Irish, ...	Miner, ...	35	M.	1	3	Bellevue, ...		Killed by fall of roof at face of gangway.
April 5	Alexander Knapka, ..	Polish,.....	Miner, ...	30	M.	1	1	Sloan, ...		Killed by blast at face of chamber.
23	Constantine Yomitchick.	Polish,.....	Laborer, ...	28	M.	1	1	Sloan, ...		Fatally injured by fall of roof at face of chamber.
	Frank Farrell, ...	American,..	Runner, ...	21	S.	....	....	Dodge, ...		Killed by cars near breaker. Outside.
May 6	Charles Werner, ...	German,....	Laborer, ...	50	M.	1	3	Sloan, ...		Instantly killed by being struck by an iron post. Outside.
June 16	Peter Nelson, ...	Swedish,....	Miner, ...	54	M.	1	....	Hyde Park		Instantly killed by fall of roof at face of chamber.
July 17	James Donnelly, ...	Irish, ...	Track layer,	37	M.	1	....	Oxford, ...		Fatally burned by explosion of gas on gangway.
31	Peter Gregret, ...	Polish,.....	Miner, ...	43	M.	1	5	Continental, ...		Killed by fall of roof at face of chamber.
Aug. 18	James Healy, ...	American,..	Brakeman, ..	22	S.	....	....	Sloan, ...		Killed by runaway car in chamber.
19	Albert Rowe, ...	American,..	Company man	27	M.	1	....	Capouse, ...		Killed by cars at foot of shaft.
21	Julius Goldoskie, ...	Polish,.....	Miner, ...	42	M.	....	....	Archbald, ...		Fatally burned by explosion of powder at face of chamber.
Sept. 29	Patrick Fitzhenry, ..	Irish, ...	Miner, ...	40	M.	1	1	Holden, ...		Fatally injured by fall of coal at face of chamber.
Oct. 9	George Hoffman, ...	American,..	Carpenter, ..	39	M.	1	6	Water Shaft,..		Instantly killed by cage at landing of shaft. Outside.

Digitized by Google

TABLE 5.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
March 22	Ignats Malcenig,	Lithuanian,	Miner,	26	M.	Capouse,	Lackawanna,	Rib fractured by fall of roof at face of chamber.
28	Joe Cocco,	Italian,	Miner,	27	S.	National,		Leg fractured by blast in cross-cut.
April 5	John Lesko,	Polish,	Driver,	17	S.	Archbald,		Seriously injured by fall of roof at face of chamber.
	John Buchak,	Polish,	Laborer,	27	M.	Sloan,		Seriously injured by blast at face of chamber.
7	Joseph Moszakie,	Polish,	Miner,	37	M.	Greenwood,		Ribs fractured by cars at foot of shaft.
12	Andy Ring,	Polish,	Miner,	34	M.	Oxford,		Back and arms burned by gas at face of chamber.
14	George Pennulck,	Polish,	Laborer,	45	M.	Archbald,		Leg crushed by cars at face of chamber.
21	Andrew Kajlusky,	Polish,	Laborer,	42	M.	Oxford,		Seriously injured by fall of roof at face of chamber.
	Stanley Vicceskie,	Polish,	Miner,	40	M.	Archbald,		Toe crushed by cage at foot of shaft.
26	Walter Alasky,	Polish,	Driver,	20	S.	Oxford,		Hips injured by cars on gangway.
29	William McHale,	Irish,	Company man,	49	M.	Capouse,		Pelvis broken by fall of coal on gangway.
30	Joseph Janush,	Lithuanian,	Laborer,	34	M.	Hyde Park,		Ribs fractured by fall of roof at face of chamber.
May 15	Martin Colonisky,	Lithuanian,	Miner,	32	M.	Capouse,		Severely injured by explosion of dynamite cap at face of chamber.
	Adam David,	Polish,	Laborer,	22	M.	Continental,		Arm broken by cars at face of chamber.
22	Mike Ruddy,	Irish,	Miner,	39	M.	Sloan,		Severely burned by gas at face of chamber.
	Walter Baiauravita,	Polish,	Motorman,	19	S.	Hyde Park,		Arm bruised by cars at face of chamber.
24	Peter Katulis,	Lithuanian,	Miner,	34	M.	Capouse,		Hips injured by cars on gangway.
June 14	John Kellbach,	Polish,	Laborer,	30	M.	Bellevue,		Severely injured by cars in chamber.
18	Thomas Mesefesto,	Polish,	Miner,	42	M.	Bellevue,		Scalp lacerated by fall of roof at face of chamber.
19	William J. Williams,	Welsh,	Miner,	41	M.	Sloan,		Leg fractured by fall of roof at face of chamber.
20	Frank Snopposkie,	Polish,	Miner,	36	M.	Continental,		Severely injured by blast at face of chamber.
21	Robert Williams,	American,	Carpenter,	33	M.	Sloan,		Leg broken by machinery in the breaker. Outside.

Digitized by Google

June	24	Edwin Wagstaff, ...	American,...	Door boy, ...	20	S.	Sloan, ...			Fingers crushed by door on gangway.
	25	John Sobuskee, ...	Polish,.....	Miner, ...	39	M.	Archbald, ...			Ribs fractured by fall of roof at face of chamber.
	27	Barney Bendofskie, ..	Polish,.....	Laborer, ...	26	S.	Hyde Park, ...			Leg fractured by cars at face of chamber.
July	1	Andrew Patro, ...	Polish,.....	Driver, ...	19	S.	Oxford, ...			Kicked on forehead by mule in chamber.
	16	John Wascanide, ...	Polish,.....	Laborer, ...	36	M.	Sloan, ...			Leg fractured by fall of roof at face of chamber.
	29	David Davis, ...	Welsh,.....	Miner, ...	35	M.	Achbald, ...			Seriously injured by blast at face of chamber.
		Costic Snorskie, ...	Polish,.....	Miner, ...	28	M.	Greenwood, ...			Seriously burned by blast at face of chamber.
Aug.	7	Patrick J. Durkin, ..	American,..	Laborer, ...	35	M.	Sloan, ...			Ribs fractured by cars at face of old rock chamber.
		Aleck Paplicki, ...	Polish, ...	Miner, ...	42	M.	Continental, ...			Pelvis fractured by blast in airway.
	11	Feto Pinpelo, ...	Italian, ...	Laborer, ...	32	S.	Oxford, ...			Seriously burned by gas in chamber.
	15	Frank Modack, ...	Polish,.....	Laborer, ...	19	S.	Bellevue, ...			Leg fractured by fall of roof at face of chamber.
	18	Edward Rapapski, ..	Polish,.....	Miner, ...	45	M.	Continental, ...			Foot fractured by fall of roof at face of chamber.
Sept.	12	Edward Campbell, ..	American,..	Motorman, ...	32	W.	Hyde Park, ...			Hips injured by cars at face of heading.
	10	Edward Nickelett, ..	Polish,.....	Laborer, ...	47	M.	Dodge, ...			Seriously injured by cars near face of chamber.
		Anthony Bonenis, ...	Lithuanian,	Laborer, ...	31	M.	Capouse, ...			Leg broken by fall of slate at face of chamber.
	17	Mike Kalko, ...	Polish,.....	Miner, ...	41	M.	Dodge, ...	Lackawanna,.		Leg broken by fall of slate at face of chamber.
		Miciucas Caritch, ...	Lithuanian,	Laborer, ...	33	M.	Dodge, ...			Finger broken by cars. Outside.
	20	Joseph Bodousky, ...	Polish,.....	Laborer, ...	31	S.	National, ...			Leg broken by cars at face of chamber.
		Thomas Ford, ...	Irish, ...	Miner, ...	44	M.	Greenwood, ...			Severely injured by fall of roof at face of chamber.
	30	Patrick Gibbons,, ..	Irish, ...	Miner, ...	65	M.	Archbald, ...			Seriously injured by fall of roof at face of chamber.
Oct.	1	Marian Blader, ...	Polish,.....	Miner, ...	35	M.	Greenwood, ...			Seriously injured by fall of roof at face of chamber.
	3	Lynn Mayberry, ...	English, ...	Laborer, ...	23	S.	Dodge, ...			Spine fractured by fall of roof at face of chamber.
	4	Michael J. Joyce, ...	American,..	Driver, ...	16	S.	Dodge, ...			Fingers crushed by cars on gangway.
	6	William Olmaskie, ..	Polish,.....	Miner, ...	38	M.	National, ...			Leg fractured by cars at face of chamber.
	18	Harry Hughes, ...	English, ...	Driver, ...	23	M.	Dodge, ...			Head injured by falling off mule. Outside.
	22	Peter Novick, ...	Polish,.....	Laborer, ...	50	M.	Holden, ...			Arm fractured by premature blast at face of chamber.
	24	Frank Blashton, ...	Slavonian,..	Laborer, ...	28	M.	Holden, ...			Leg fractured by fall of roof at face of chamber.
Nov.	5	Constant Ruffonski, ..	Polish,.....	Laborer, ...	45	M.	Holden, ...			Leg fractured by fall of roof at face of gangway.
	8	Kalebest Kraesy, ...	Polish,.....	Laborer, ...	22	S.	Bellevue, ...			Slightly burned by gas at face of chamber.
		William Gabe, ...	American,..	Miner, ...	49	M.	Bellevue, ...			Slightly burned by gas at face of chamber.
		John Ourevider, ...	Swedish,....	Miner, ...	45	M.	Sloan, ...			Leg fractured by timber falling on him at face of chamber.
	13	John Gluke, ...	Polish,.....	Miner, ...	38	M.	Oxford, ...			Back and hips injured by fall of roof at face of chamber.

Digitized by Google

Holden Colliery.—Cleaned the shaft to the No. 2 Dunmore vein and installed an electric signal system. Sunk air shaft from the surface to the Rock vein. Installed a fan and engine and are building fan house. Completed tunnel through fault in the Diamond vein to develop the top split of Diamond vein.

Sloan Colliery. At Sloan shaft a water tunnel, 7 by 10 by 850 feet, was driven to carry water from the Holden and other places to Hampton water shaft.

Installed fire escape on breaker, and railed off all hoisting engines.

HUDSON COAL COMPANY

Greenwood Colliery.—A new washery has been added to the breaker.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in Scranton, June 16 and 17. The Board of Examiners was composed of Jenkin T. Reese, Mine Inspector, Scranton; Joseph P. Jennings, Superintendent, Moosic; James W. Reese, Miner, Scranton; and William J. Jenkins, Miner, Scranton.

The following persons passed a satisfactory examination and were granted certificates:

MINE FOREMEN

James Alexander, John Davies, James Degnall, Thomas Goodfellow, Luther E. Harris, Evan Jones, Henry Jones, George Jones, John Jones, Richard Jones, Stephen Martin, William Mildiz, Isaac Morgan, Frank Mulrooney, Rees T. Reese, Scranton; Hugh B. Garvin, Old Forge.

ASSISTANT MINE FOREMEN

Nelson Anderson, Evan R. Davis, Myron Albert Evans, John P. Gallagher, Benjamin F. Hughes, William King, William Knox, Philip McAndrew, Edward E. Roberts, James Sharples, Ernest Telford, William Witzel, Thomas Robson, Scranton.

Digitized by Google

FIFTH DISTRICT

LACKAWANNA AND LUZERNE COUNTIES

Rendham, Pa., February 20, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir:—I have the honor to transmit my report as Inspector of Mines for the Fifth Anthracite District, for the year ending December 31, 1913, as required by the Act of April 14, 1903.

Respectfully submitted,

AUGUSTUS McDADE. Inspector.

Digitized by Google

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Pennsylvania Coal Co.,	6	.....	6	8	2	10	203,116	152,337	1,680	606	2,286	280	.....	210	303
Delaware, Lackawanna and Western Railroad Co.,	7	.....	7	18	.....	18	144,467	56,182	1,667	431	2,098	238	.....	93	.....
Jermyn and Co.,	.....	.....	.....	1	.....	1	.....	507,620	778	181	959	.....	.....	778	.....
Elliott, McClure and Co.,	6	.....	6	7	.....	7	35,481	30,412	523	123	646	87	.....	75	.....
Hillside Coal and Iron Co.,	1	.....	1	1	.....	1	165,193	165,193	278	106	384	278	.....	278	.....
Hudson Coal Co.,	.....	.....	.....	4	.....	4	.....	31,813	245	118	363	.....	.....	61	.....
Lehigh Valley Coal Co.,	.....	.....	.....	2	.....	2	.....	6,674	30	7	37	.....	.....	15	.....
Miscellaneous Companies,	.....	.....	.....	.....	.....	.....	.....	.....	12	6	18	.....	.....	.....	.....
Totals and averages for district, ...	20	.....	20	41	2	43	162,850	79,439	5,213	1,578	6,791	261	.....	127	789

Digitized by Google

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of roof,	....	2	....	....	....	1	1	2	1	1	....	1	11	55.00
Mine cars,	....	2	....	....	....	....	....	1	....	1	....	....	4	20.00
Explosions of powder and dynamite,	....	....	....	....	....	....	....	1	....	1	....	1	3	15.00
Blasts, premature and otherwise,	....	....	....	....	....	....	....	....	....	1	....	....	1	5.00
Struck by rock,	....	....	....	....	1	....	....	....	....	....	....	....	1	5.00
Totals,	....	4	....	....	1	1	1	4	1	4	....	2	20	100.00
Causes of Accidents Outside (No Accidents)														

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	....	....	....	....	....	....	....	....	....	....	1	....	1	2.44
Falls of roof,	1	1	2	....	....	2	3	1	3	2	1	....	16	39.02
Mine cars,	....	....	1	1	1	3	....	2	....	1	....	1	10	24.39
Explosions of gas,	....	....	....	....	....	....	1	....	....	....	....	....	1	2.44
Explosions of powder and dynamite,	....	....	....	1	....	....	....	....	....	1	....	....	2	4.88
Blasts, premature and otherwise,	....	....	....	1	....	....	....	....	1	....	1	....	3	7.31
Struck by piece of coal,	....	....	....	1	....	....	....	....	....	....	....	....	1	2.44
Struck by piece of rock,	....	....	....	1	1	....	....	....	....	....	....	....	2	4.88
By falling,	1	....	....	....	....	....	....	....	....	....	....	....	1	2.44
Mules,	....	1	....	....	....	....	....	....	....	....	....	....	1	2.44
Machinery,	....	....	....	....	1	....	....	....	....	....	....	....	1	2.44
Struck by rope,	....	....	....	....	....	1	....	....	....	....	....	....	1	2.44
Struck by timber,	....	....	....	....	....	....	....	....	....	....	....	1	1	2.44
Totals,	2	2	3	5	3	6	4	3	4	4	3	2	41	100.00
Causes of Accidents Outside														
Struck by piece of coal,	....	....	....	....	....	....	....	....	....	1	....	....	1	50.00
By falling,	....	....	....	....	....	....	....	....	....	1	....	....	1	50.00
Totals,	....	....	....	....	....	....	....	....	....	2	....	....	2	100.00
Grand totals inside and outside,	2	2	3	5	3	6	4	3	4	6	3	2	43	.....

Digitized by Google

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Pennsylvania Coal Co.															
Old Forge Colliery:															
No. 1,	Shaft,	Non-gas.	Fan,	17.	4.5	4.5	24	.2	Guibal,	Steam,	2	20,700	19,400	22,000	38
No. 1,	Slope,	Non-gas.	Fan,	20.	6.5	5.42	52	.9	Guibal,	Steam,	5	65,700	60,800	68,700	138
No. 2,	Shaft,	Non-gas.	Fan,	20.	6.5	5.42	55	1.0	Guibal,	Electricity,	5	93,915	82,460	106,370	196
Mountain (Clark Vein) Mountain (Marcy Vein)	Drift,	Non-gas.	Fan,	20.	6.5	5.42	59	1.0	Guibal,	Electricity,	10	143,915	126,925	158,860	524
*Coray,	Slope,	Non-gas.	Fan,	14.	4.0	4.0	70	.5	Guibal,	Electricity,	3	39,700	35,535	39,960	64
Central Colliery:															
Laws,	Slope,	Non-gas.,	Fan,	20.	6.5	5.42	50	.5	Guibal,	Steam,	6	90,600	78,200	98,000	269
Laws,	Shaft,	Gaseous,													
No. 12,	Shaft,	Gaseous,	Fan,	20.	6.5	5.42	60	.6	Guibal,	Steam,	2	61,800	57,150	80,500	57
Delaware, Lackawanna and Western Railroad Co.															
Pyne Colliery:															
Pyne,	Shaft,	Gaseous,	Fan,	16.	5.	4.5	90	.9	Guibal,	Steam,	10	241,200	192,700	253,100	638
Pyne,	Slope,	Gaseous,	Fan,	24.	8.	6.0	72	1.6							
Taylor Colliery:															
Taylor,	Shaft,	Gaseous,	Fan,	25.	8.	7.	60	1.0	Guibal,	Steam,	10	274,135	210,790	302,440	595
Taylor,	Slope,	Gaseous,													
Halstead Colliery:															
Halstead,	Shaft,	Gaseous,	2 Fans,	18.	4.	6.29	114	1.8	Guibal,	Steam,	9	115,011	106,700	120,300	300
				12.	3.5	3.0	56	.6	Guibal,	Steam,	1	9,220	8,420	2,200	36
Halstead,	Drift,	Non-gas.,	Fan,	12.	3.25	4.5	44	.4	Guibal,	Steam,	1	12,860	11,700	17,925	10

*New opening.

Digitized by Google

Jermyn and Co.																
Jermyn Colliery:																
No. 1,	Shaft,	Gaseous,	Fan,	14.	4.5	4.0	90	1.1	Gulbal,	Steam,	5	93,730	†	117,500	778
No. 1,	Slope,	Gaseous,	Fan,	18.	4.25	6.0	90	1.1	Gulbal,	Steam,	6	104,500	†	105,400	
No. 2,	Shaft,	Gaseous,													
No. 2,	Slope,	Non-gas.													
No. 3,	Shaft,	Gaseous,	Fan,	18.	4.5	4.0	53	.8	Gulbal,	Steam,	2	70,000	†	107,000	
No. 3,	Slope,	Gaseous,	Fan,	10.	4.0	3.16	84	.3	Gulbal,	Steam,	2	22,750	19,750	29,175	
Elliott, McClure and Co.																
Sibley Colliery:																
Sibley,	Shaft,	Non-gas.,	Fan,	20.	6.0	5.0	70	1.6	Gulbal,	Steam,	8	105,000	99,500	110,500	523
Hillside Coal and Iron Co.																
Consolidated Colliery:																
Consolidated,	Slope,	Non-gas.,	Fan,	14.	4.0	4.0	85	.6	Gulbal,	Steam,	4	27,400	25,400	27,500	105
Consolidated,	Drift,	Non-gas.,	Natural,	.....	.....	.....	.....	.....	.....	.....	1	13,350	†	16,980	31
Hudson Coal Co.																
Spring Brook Colliery:																
No. 1,	Slope,	Gaseous,	Fan,	12.	3.0	4.0	90	.5	Gulbal,	Steam,	1	19,550	13,300	21,300	50
No. 2,	Slope,	Non-gas.,	Fan,	15.	4.5	4.6	120	.2	Gulbal,	Steam,	2	40,360	27,500	44,200	
No. 3,	Slope,	Non-gas.,	Natural,	.....	.....	.....	.....	.....	.....	.....	1	10,200	9,850	13,300	
Langcliffe Colliery:																
Langcliffe,	Shaft,	Non-gas.,	Fan,	17.	5.0	6.0	60	.4	Gulbal,	Steam,	2	32,100	28,450	36,225	196
Moosic,	Shaft,	Gaseous,	Fan,	10.	4.0	4.0	90	.1	Gulbal,	Steam,	1	21,400	18,325	24,350	
No. 1,	Slope,	Non-gas.,	Natural,	.....	.....	.....	.....	.....	.....	.....	1	16,240	13,375	17,900	
No. 2,	Drift,	Non-gas.,	Natural,	.....	.....	.....	.....	.....	.....	.....	1	14,950	12,000	16,850	
No. 3,	Drift,	Non-gas.,	Natural,	.....	.....	.....	.....	.....	.....	.....	1	15,100	12,350	17,000	
Lehigh Valley Coal Co.																
Austin Colliery:																
Austin,	Drift,	Non-gas.,	Fan,	8.	3.0	2.0	120	.3	Gulbal,	Electricity,	1	18,500	12,000	19,900	30
Moosic Coal Co.																
Moosic Colliery:																
Moosic,	Drift,	Non-gas.,	Natural,	.....	.....	.....	.....	.....	.....	.....	1	6,000	5,100	6,350	12

†Robbing pillars.

Digitized by Google

TABLE 2.—Continued

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives: Number of pounds of powder used	Explosives: Number of pounds of dynamite used	Explosives: Number of pounds of permissible explosives used	Number of horses and mules
Hudson Coal Co.,													
Spring Brook,	Lackawanna,	16,789	9,406	570	26,765	52	92	.....	.....	21,650	1,048	.....	10
Langcliffe,	Luzerne,	89,061	9,291	2,135	100,487	141	271	.....	4	79,850	3,901	.....	60
Totals,	.....	105,850	18,697	2,705	127,252	.....	363	.....	4	111,500	4,949	.....	70
Lehigh Valley Coal Co.													
Austin,	Lackawanna.	13,035	312	.....	13,347	*220	37	.....	2	5,700	75	.....	9
Moosic Coal Co.													
Moosic,	Lackawanna,	459	150	136	745	76	18	.....	.....	1,250	200	.....	2
Grand totals,	.....	2,964,871	248,999	43,139	3,257,009	.....	6,791	20	43	3,341,750	136,234	80,041	459

*Coal prepared at William A. colliery of Lehigh Valley Coal Co., Eighth District.

Digitized by Google

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers: Cylindrical	Number of Boilers: Horse power	Number of Boilers: Tubular	Number of Boilers: Horse power	Number of Boilers: Total horse power	Locomotives: Steam	Locomotives: Air	Locomotives: Electric	Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
Pennsylvania Coal Co.,	Lackawanna,	.....	.....	46	5,300	5,300	5	.....	44	46	5,000	15	19,200	9,400	4	.....
	Luzerne,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Delaware, Lackawanna and Western Railroad Co.,	Lackawanna,	27	920	26	4,595	5,515	1	.....	25	41	3,695	8	10,220	4,700	3	.....
	Luzerne,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jermyn and Co.,	Lackawanna,	.....	.....	4	2,000	2,000	.....	.....	.....	21	1,818	2	10,000	7,000	1	.....
Elliott, McClure, and Co.,	Lackawanna,	.....	.....	8	1,200	1,200	.....	.....	.....	24	1,200	2	5,000	8,000	.....	2
Hillside Coal and Iron Co.,	Luzerne,	.....	.....	12	900	900	2	.....	.....	14	650	1	600	500	.....	.....
Hudson Coal Co.,	Lackawanna,	.....	.....	12	1,485	1,485	1	.....	.....	36	1,226	3	2,700	1,000	1	1
	Luzerne,	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	500	400	.....	.....
Lehigh Valley Coal Co.,	Lackawanna,	.....	.....	.....	.....	.....	.....	.....	.....	.....	15	1	800	200	.....	.....
Moosic Coal Co.,	Lackawanna,	1	60	.....	.....	60	.....	.....	.....	2	50	1	.....	.....	.....	.....
Totals,		28	980	109	15,480	16,460	10	.....	69	194	14,934	33	49,520	26,200	9	3

Digitized by Google

TABLE 4.—Fatal accidents inside and outside of mines

Date of Accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Feb. 4	Peter McGraw, ...	American, ..	Headman, ..	27	S.	....	....	Halstead, ...	Luzerne, ...	Killed by falling under trip of cars on plane.
10	Bravi Wilmo, ...	Italian, ...	Miner, ...	40	M.	1	1	Old Forge, ...	Lackawanna, ...	Killed by fall of roof at face of chamber.
11	Harry Hoover, ...	American, ..	Laborer, ...	20	M.	1	....	Sibley, ...	Lackawanna, ...	Killed by fall of roof in chamber.
14	Leo Milmarts, ...	American, ..	Driver, ...	17	S.	....	....	Central, ...	Luzerne, ...	Crushed to death between loaded and empty cars on passing branch 816 feet from foot of shaft.
May 10	Mike Cavah, ...	Polish, ...	Laborer, ...	40	M.	1	3	Central, ...	Luzerne, ...	Fatally injured by piece of rock sliding off gob at face.
June 13	Felix Bonan, ...	Italian, ...	Miner, ...	27	M.	1	5	Old Forge, ...	Lackawanna, ...	Killed by fall of roof at face of chamber.
	Vincanzi Damachi, ..	Italian, ...	Laborer, ...	20	S.	....	....			
16	James Shea, ...	Irish, ...	Miner, ...	40	M.	1	4	Taylor, ...	Lackawanna, ...	Killed by fall of roof at face of chamber.
July 12	Alex Smith, ...	Russian, ...	Laborer, ...	30	M.	1	3	Pyne, ...	Lackawanna, ...	Fatally injured by fall of roof at face of chamber.
Aug. 4	Fred Collier, ...	American, ..	Motorman, ..	23	M.	1	2	Central, ...	Luzerne, ...	Fatally injured by being squeezed between motor and cars on gangway.
16	Ben Krotavitch, ...	Lithuanian,	Miner, ...	30	M.	1	2	Sibley, ...	Lackawanna, ...	Killed by fall of roof at face of new counter.
	Peter Gonser, ...	Polish, ...	Laborer, ...	22	M.	1	....			
19	Anthony Lukasik, ...	Polish, ...	Miner, ...	57	M.	1	2	Consolidated, ...	Luzerne, ...	Fatally burned by an explosion of powder in crosscut while making a cartridge.
Sept. 27	Jacob Penta, ...	Polish, ...	Miner, ...	42	S.	....	....	Sibley, ...	Lackawanna, ...	Fatally injured by fall of soapstone at face of chamber.
Oct. 9	George Buck, ...	English, ...	Company man	40	M.	1	1	Halstead, ...	Luzerne, ...	Killed by blast at the face of another miner's chamber while he was looking for the mine foreman.
22	Charles Sweders, ...	Polish, ...	Laborer, ...	40	M.	1	....	Sibley, ...	Lackawanna, ...	Killed by fall of a saddle at end of pillar.
23	Theodore Grain, ...	Russian, ...	Laborer, ...	26	M.	1	....	Pyne, ...	Lackawanna, ...	Fatally injured by explosion of powder at face.
25	Jenkin Williams, ...	Welsh, ...	Laborer, ...	30	M.	1	1	Pyne, ...	Lackawanna, ...	Killed by cars on gangway.
Dec. 4	William N. Richards,	Welsh, ...	Miner, ...	51	M.	1	....	Taylor, ...	Lackawanna, ...	Killed by fall of roof at face of chamber.
22	John Huda, ...	Polish, ...	Miner, ...	28	M.	1	1	Sibley, ...	Lackawanna, ...	Fatally burned by explosion of powder at face of chamber.

Digitized by Google

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 13	Henry Pairclaugh, ...	American, ..	Laborer, ...	23	M.	Taylor, ...	Lackawanna, ...	Leg bruised by fall of roof at end of pillar.
14	Andrew Cookta, ...	Polish, ...	Laborer, ...	25	S.	Langcliffe, ...	Luzerne, ...	Right knee fractured by falling when running away from fall of roof at face of chamber.
Feb. 7	John Pethrick, ...	Slavonian, ..	Laborer, ...	48	M.	Taylor, ...	Lackawanna, ...	Ribs broken by mule falling on him near face of chamber.
12	Simon Brastopsky, ...	Polish, ...	Miner, ...	36	M.	Consolidated, ...	Luzerne, ...	Right leg fractured by fall of roof at face of chamber.
March 10	Mike Calina, ...	Lithuanian,	Miner, ...	23	S.	Taylor, ...	Lackawanna, ...	Leg fractured and scalp lacerated by fall of roof at face.
13	Hugh Hughes, ...	American, ..	Laborer, ...	32	S.	Taylor, ...	Lackawanna, ...	Scalp and hips bruised by fall of roof at face of chamber.
20	Dominick Coleman, ..	American, ..	Driver, ...	18	S.	Taylor, ...	Lackawanna, ...	Leg bruised by being caught between cars on plane.
April 12	George Skesick, ...	Slavonian, ..	Laborer, ...	34	M.	Taylor, ...	Lackawanna, ...	Finger broken by being caught between sprag and coal at face.
14	Walter Rychleskie, ..	Polish, ...	Miner, ...	37	M.	Old Forge, ...	Lackawanna, ...	Foot cut off by piece of rock sliding from gob at end of pillar.
18	William Vandno, ...	Polish, ...	Laborer, ...	33	M.	Old Forge, ...	Lackawanna, ...	Ribs and fingers broken by blast at face.
19	John Valardi, ...	Italian, ...	Miner, ...	34	M.	Sibley, ...	Lackawanna, ...	Burned and cut on arm and face while forcing powder in hole at face of chamber.
26	Vito Powell, ...	Italian, ...	Helper, ...	18	S.	Sibley, ...	Lackawanna, ...	Wrist broken between roof and topping on car on gangway.
May 9	David Jones, ...	Welsh, ...	Machine runner, ..	32	M.	Taylor, ...	Lackawanna, ...	Fingers crushed by being caught between rope and drum at face of chamber.
12	Roy Thomas, ...	American, ..	Driver, ...	20	S.	Pyne, ...	Lackawanna, ...	Finger injured by cars on head of plane.
14	Peter Genceo, ...	Austrian, ..	Laborer, ...	35	M.	Austin, ...	Lackawanna, ...	Feet lacerated by rock sliding down pitch at face of chamber.
June 3	Joseph Whitehouse, ..	American, ..	Driver, ...	17	S.	Pyne, ...	Lackawanna, ...	Leg bruised by being caught on tumbling rod of car on west side plane.
5	Joseph Racopski, ...	Russian, ...	Miner, ...	47	M.	Old Forge, ...	Lackawanna, ...	Left arm fractured by fall of roof at face of chamber.

Digitized by Google

CONDITION OF COLLIERIES

PENNSYLVANIA COAL COMPANY

Old Forge Colliery.—Ventilation, drainage and condition as to safety good. Mining pillars.

Central Colliery.—Ventilation, drainage and general condition good. Mining pillars.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Pyne Colliery.—Ventilation, drainage and condition as to safety good. Mining pillars.

Taylor Colliery.—Ventilation, drainage and condition as to safety good. Mining pillars.

Halstead Colliery.—Ventilation, drainage and condition as to safety fair. Mining pillars.

JERMYN AND COMPANY

Jermyns Colliery.—Ventilation, drainage and condition as to safety good. Mining pillars extensively.

ELLIOTT, McCLURE AND COMPANY

Sibley Colliery.—Ventilation, drainage and condition as to safety good. Mining pillars.

HILLSIDE COAL AND IRON COMPANY

Consolidated Colliery.—Ventilation, drainage and condition as to safety good. Mining pillars.

HUDSON COAL COMPANY

Spring Brook Colliery.—Ventilation, drainage and general condition as to safety good. Mining pillars.

Langcliffe Colliery.—Ventilation, drainage and condition as to safety good. Mining pillars.

LEHIGH VALLEY COAL COMPANY

Austin Colliery.—Ventilation, drainage and general condition as to safety fair. Mining pillars almost exclusively.

MOOSIC COAL COMPANY

Moosic Colliery.—Ventilation, drainage and condition as to safety good.

IMPROVEMENTS

PENNSYLVANIA COAL COMPANY

Old Forge Colliery.—A new steam line erected from the breaker to No. 1 shaft, and the boiler plant at the latter place abandoned.

A saw mill, operated by electricity, has been built on the outside near No. 1 shaft to cut props needed for the colliery.

Digitized by Google

Considerable work has been done grading the main haulage roads in No. 2 shaft to eliminate the present grades.

Central Colliery.—For better fire protection a new fire pump was installed outside.

Rebuilt the head frame over Laws shaft.

Considerable work has been done filling in the old workings in the Red Ash veins with culm and broken rock from the breaker.

A saw mill, operated by electricity, has been built to cut the props for the colliery.

The engine and pump house at No. 13 shaft was rebuilt, making it fireproof.

A rock plane, 7 by 12 feet, on a 20 degree grade, was driven from Nigger vein to Clark vein, in Laws shaft, a distance of 470 feet.

An air shaft, 10 by 14 feet, was sunk from the surface to the Nigger vein for a second opening and ventilation.

A traveling way was driven from surface, striking the crop of the Clark vein near Laws shaft. This provides a second opening and a good traveling way from this seam.

JERMYN AND COMPANY

Jermyns Colliery.—Old revolving screens taken out and new shaking screens put in breaker.

Three pairs of compounded rollers were installed in the breaker.

HILLSIDE COAL AND IRON COMPANY

Consolidated Colliery.—Considerable work has been done rebuilding the washery pockets.

At Consolidated drift an air shaft has been sunk from the surface to the Red Ash vein to provide better ventilation and at the same time makes another second opening to the surface.

A slope has been driven from the surface into the top split of the Stark vein at Consolidated drift.

At the Red Ash slope an additional pump to pump to the surface has been installed.

The old Brown slope near Consolidated breaker has been reopened for the purpose of taking out the pillars.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in the High School, Old Forge, June 6 and 7.

The Board of Examiners was composed of Augustus McDade, Inspector; R. W. Rees, Superintendent, Rendham; Morgan E. Griffiths, Miner, Taylor; John F. Hayes, Miner, Old Forge.

The following persons passed a satisfactory examination and were granted certificates:

MINE FOREMEN

Nelson N. Nichols, Thomas Farmer, Stanley Gleason, David [redacted], Scranton; Patrick L. Heneghan, Thomas Loftus, William [redacted] Old Forge; John T. Harris, Thomas J. Jones, Alfred Jones,

Digitized by Google

SUMMARY OF STATISTICS

Number of collieries,	14
Number of mines,	41
Number of mines in operation,	41
Number of tons of coal shipped to market,	5,020,380
Number of tons used at mines for steam and heat,	462,053
Number of tons sold to local trade and used by employes,	48,253
Number of tons produced,	5,530,686
Number of tons produced by compressed air machines,	....
Number of tons produced by electrical machines,	....
Number of persons employed inside of mines,	9,267
Number of persons employed outside,	2,841
Number of fatal accidents inside of mines,	35
Number of fatal accidents outside,	1
Number of non-fatal accidents inside of mines,	72
Number of non-fatal accidents outside,	9
Number of tons of coal produced per fatal accident inside,	158,019
Number of tons produced per fatal accident outside,	5,530,686
Number of tons produced per fatal accident inside and outside,	153,630
Number of persons employed per fatal accident inside,	264
Number of persons employed per fatal accident outside,	2,841
Number of persons employed per fatal accident inside and outside,	336
Number of persons employed per non-fatal accident inside,	128
Number of persons employed per non-fatal accident outside,	315
Number of persons employed per non-fatal accident inside and outside,	149
Number of wives made widows,	27
Number of children made orphans,	64
Number of steam locomotives used inside of mines,	....
Number of steam locomotives used outside,	25
Number of compressed air locomotives used inside,	12
Number of compressed air locomotives used outside,	....
Number of electric motors used inside,	61
Number of electric motors used outside,	....
Number of fans in use,	42
Number of furnaces in use,	....
Number of gaseous mines in operation,	21
Number of non-gaseous mines in operation,	20
Number of new mines opened,	2
Number of old mines abandoned,	2

Digitized by Google

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Pennsylvania Coal Company,	3,156,933
Hillside Coal and Iron Company,	668,072
Hudson Coal Company,	660,372
Lehigh Valley Coal Company,	573,863
Delaware and Hudson Company,	259,254
Traders Coal Company,	104,508
Wilkes-Barre Colliery Company,	61,320
McCauley Coal Company,	46,364
Total,	5,530,686

Production by Counties

Luzerne,	5,530,686

Digitized by Google

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Pennsylvania Coal Co.,	19	1	20	27	7	34	166,154	116,923	5,231	1,678	6,909	275	1,678	193	225
Hudson Coal Co.,	5	.....	5	17	.....	17	132,074	88,846	1,263	341	1,604	252	.....	74	.....
Hillside Coal and Iron Co.,	4	.....	4	9	1	10	167,018	74,280	1,106	411	1,517	276	.....	128	411
Lehigh Valley Coal Co.,	1	.....	1	9	.....	9	578,863	63,762	777	234	1,011	777	.....	86	.....
Delaware and Hudson Co.,	2	.....	2	8	1	4	129,627	86,418	453	153	606	226	.....	151	153
Traders Coal Co.,	2	.....	2	1	.....	1	52,254	104,508	282	69	351	141	.....	282	.....
William Harris Colliery Co.,	1	.....	1	6	.....	6	61,320	10,220	124	39	163	124	.....	21	.....
McCauley Coal Co.,	1	.....	1	.....	.....	.....	46,361	.....	31	16	47	31	.....	.....	.....
Totals and averages for district, ...	35	1	36	72	9	81	158,019	76,815	9,267	2,841	12,108	264	2,841	128	315

Digitized by Google

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	....	1	1	....	....	....	....	1	....	1	1	....	5	14.29
Falls of roof,	....	....	3	2	....	3	....	....	1	4	2	3	18	51.42
Mine cars,	....	1	....	....	....	....	....	1	....	....	....	....	2	5.71
Explosions of gas,	....	....	1	....	....	....	....	....	....	....	....	....	1	2.86
Explosions of powder and dynamite,	....	1	....	....	....	....	....	....	....	....	....	....	1	2.86
Blasts, premature and otherwise,	1	....	....	....	....	2	3	....	....	....	2	....	8	22.85
Totals,	1	3	5	2	....	5	3	2	1	5	5	3	35	100.00
Causes of Accidents Outside														
Cars,	....	....	....	....	....	1	....	....	....	....	....	....	1	100.00
Totals,	....	....	....	....	....	1	....	....	....	....	....	....	1	100.00
Grand totals inside and outside,	1	3	5	2	....	6	3	2	1	5	5	3	36	.....

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	....	....	....	1	....	....	....	1	....	....			1	1.78
Falls of roof,	....	2	2	4	1	2	2	1	1	4	1	1	19	33.93
Mine cars,	6	4	....	....	1	1	2	2	2	2	1		11	19.64
Explosions of gas,	....	....	2	2	....	....	....	....	....	....		1	5	8.93
Explosions of powder and dynamite,	....	....	....	....	....	....	....	....	....	1			1	1.79
Blasts, premature and otherwise,	2	....	....	....	1	1	2	....	....		1	1	10	17.86
Falling into shafts,	1	....	....	....	....	....	....	....	....				1	1.79
Mules,	....	....	....	....	1	....	....	....	1				2	3.57
Bursting pipe,	....	....	....	2	....	....	....	....	....				2	3.57
By falling,	....	....	....	....	1	....	2	....	....		1		4	7.14
Struck by timber,	....	....	....	....	....	1	....	....	....				1	1.79
Totals,	9	6	4	9	5	5	8	4	4	7	3	2	56	100.00
Causes of Accidents Outside														
Cars,	....	....	....	....	1	1	....	....			1		3	50.00
Machinery,	....	....	....	....	....	....	....	....		1			1	16.67
Struck by timber,	1	....	....	....	....	....	....	....					1	16.67
By falling,	....	1	....	....	1	....	....	....					2	33.33
Struck by casting,	....	....	....	....	....	....	....	....						
Totals,	1	1	....	....	2	1	....	....		1	1		6	100.00
Grand totals inside and outside					7	6	8	4	4	8	4	2	62	.....

Digitized by Google

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Mine foremen,	....	....	....	1	....	....	....	....	....	....	....	....	1
Miners,	1	2	4	....	....	....	3	1	....	4	2	1	15
Miners' laborers,	....	....	....	....	....	4	....	1	1	1	1	2	10
Drivers and runners,	....	1	....	....	....	1	....	....	....	....	1	....	2
Masons,	....	....	1	....	....	....	....	....	....	....	....	....	1
Blacksmiths,	....	....	....	1	....	....	....	....	....	....	....	....	1
Rock contractors,	....	....	....	....	....	....	....	....	....	....	1	....	1
Totals,	1	3	5	2	....	5	3	2	1	5	5	3	35
Outside													
Loaders,	....	....	....	....	....	1	....	....	....	....	....	....	1
Totals,	....	....	....	....	....	1	....	....	....	....	....	....	1
Grand totals inside and outside,	1	3	5	2	....	6	3	2	1	5	5	3	36

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Assistant mine foremen,	....	....	....	....	....	....	....	....	....	....	1	....	1
Fire bosses and assistants,	1	....	....	....	....	....	....	....	....	....	....	....	1
Miners,	2	4	3	5	2	2	2	1	1	3	3	1	29
Miners' laborers,	2	....	1	3	1	3	4	1	....	....	2	2	19
Drivers and runners,	4	1	....	....	1	....	1	2	2	2	1	....	14
Footmen,	....	1	....	....	....	....	1	....	....	....	....	....	2
Machinists,	....	....	....	1	....	....	....	....	....	....	....	....	1
Brakemen,	....	....	....	....	1	....	....	....	1	....	....	....	2
Bratticemen,	....	....	....	....	....	....	....	....	....	1	....	....	1
Timbermen,	....	....	....	....	....	....	....	....	....	1	....	....	1
Drillers,	....	....	....	....	....	....	....	....	....	....	1	....	1
Totals,	9	6	4	9	5	5	8	4	4	7	8	3	72
Outside													
Blacksmiths and carpenters,	....	....	....	....	....	....	....	....	1	....	....	....	1
Slatepickers (boys),	....	1	....	....	1	....	....	....	....	1	....	....	3
Headmen,	1	....	....	....	....	....	....	....	....	....	....	....	1
Laborers,	....	....	....	....	1	....	....	....	....	....	1	....	2
Loaders,	....	....	....	....	....	1	....	....	....	....	....	....	1
Slate bosses,	....	....	....	....	....	....	....	....	1	....	....	....	1
Totals,	1	1	....	....	2	1	....	....	2	1	1	....	9
Grand totals inside and outside,	10	7	4	9	7	6	8	4					

Digitized by Google

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	....	....	1	1	....	....	....	....	....	1	1	1	5
English,	....	....	....	....	....	....	....	....	....	....	....	1	1
Scotch,	....	....	....	....	....	....	....	....	....	....	1	....	1
Irish,	....	1	....	....	....	....	....	1	....	....	....	....	2
Polish,	....	....	1	1	....	2	2	....	1	1	1	....	6
Italian,	....	1	3	....	....	....	1	1	....	1	2	....	9
Slavonian,	....	....	....	....	....	1	....	....	....	....	....	....	1
Lithuanian,	....	....	....	....	....	3	....	....	....	1	....	1	5
Russian,	1	1	....	....	....	....	....	....	....	1	....	....	3
Totals,	1	3	5	2	....	6	3	2	1	5	5	3	36

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	3	1	....	1	1	....	1	....	3	3	5	....	17
English,	....	....	....	1	....	....	....	....	1	....	....	....	2
Welsh,	1	....	....	....	....	....	....	....	....	1	1	....	3
Irish,	....	....	....	....	2	....	1	....	....	....	1	....	4
German,	....	....	....	....	....	....	....	1	....	....	1	....	2
Polish,	2	1	....	2	1	3	4	2	2	3	1	1	22
Italian,	2	2	2	3	1	1	1	....	....	....	....	1	13
Slavonian,	1	1	1	....	....	2	....	1	....	1	....	....	7
Lithuanian,	1	1	....	....	2	....	....	....	....	1	....	....	5
Austrian,	....	....	....	....	....	....	1	....	....	....	....	1	2
Russian,	....	1	1	2	....	....	....	....	....	....	....	....	4
Totals,	10	7	4	9	7	6	8	4	6	8	9	3	81

Digitized by Google

TABLE I.—Continued

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Area of furnace bars in square feet	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Wilkes-Barre Colliery Co.																
Madeira Colliery:																
Number 1, ...	Slope,.....	Non-gas.,.	Fan, ...	12	5	2.5	65	.6	Jeffrey.	Electricity,.	..	2	56,000	56,000	57,000	100
McCauley Coal Co.																
Pickaway Colliery:																
Pickaway, ...	Tunnel, ...	Non-gas.,.	Natural,..	.....	.....	.....	.....	.....	.....	.....	..	1	5,690	4,600	7,610	31

Digitized by Google

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Pennsylvania Coal Co. Barnum, Number 9, Ewen, Number 8, Number 14,	Luzerne,	W. W. Inglis, General Manager. Wm. P. Jennings, Division Supt.	Scranton,	A. E. Yetter, A. E. Yetter, David Girvan, David Girvan, David Girvan,	Pittston,	Erie
Hillside Coal and Iron Co. Butler,	Luzerne,	W. W. Inglis, General Manager. Wm. P. Jennings, Division Supt.	Scranton,	A. E. Yetter,	Pittston,	Erie
Hudson Coal Co. Pine Ridge, Laflin,	Luzerne,	C. C. Rose,	Scranton,	E. R. Pettebone,	Dorranceton,	D. and H.
Lehigh Valley Coal Co. Mineral Spring, Heidelburg No. 1,	Luzerne,	Thomas Thomas,	Wilkes-Barre,	J. H. Haertter, W. D. Owens,	Wilkes-Barre, Pittston,	Lehigh Valley
Delaware and Hudson Co. Delaware,	Luzerne,	C. C. Rose,	Scranton,	E. R. Pettebone,	Dorranceton,	D. and H.
Traders Coal Co. Ridgewood,	Luzerne,	E. B. Jermyn,	Scranton,	T. J. Corcoran,	Old Forge,	Erie and C. R. R. of N. J.
Wilkes-Barre Colliery Co. Madeira,	Luzerne,	W. G. Thomas,	Wilkes-Barre,			D. and H.
McCauley Coal Co. Pickaway,	Luzerne,	W. H. McCauley,	Pittston,	George T. Rowan,	Pittston,	Lehigh Valley

Digitized by Google

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers: Cylindrical	Number of Boilers: Horse power	Number of Boilers: Tubular	Number of Boilers: Horse power	Number of Boilers: Total horse power	Locomotives: Steam	Locomotives: Air	Locomotives: Electric	Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
Pennsylvania Coal Co.,	Luzerne,	.....	.....	111	16,066	16,066	14	12	25	192	14,719	22	33,403	17,980	6	17
Hillside Coal and Iron Co.,		.....	.....	24	3,610	3,610	7	.....	23	33	3,525	5	8,000	1,700	5	.....
Hudson Coal Co.,		.....	.....	24	5,140	5,140	1	.....	9	115	5,298	6	8,200	6,800	2	6
Lehigh Valley Coal Co.,		.....	.....	17	2,960	2,960	2	.....	.....	40	4,310	3	6,197	4,977	.....	.....
Delaware and Hudson Co.,		.....	.....	6	1,800	1,800	1	.....	4	55	2,385	3	5,200	1,900	1	2
Traders Coal Co.,		.....	.....	2	800	800	.....	.....	.....	6	620	1	250	200	.....	.....
Wilkes-Barre Colliery Co.,		.....	.....	1	100	100	.....	.....	.....	.....	.....	2	800	800	1	.....
McCauley Coal Co.,		.....	.....	1	80	80	.....	.....	.....	2	80	.....	.....	.....	.....	.....
Totals,	.....	.....	.....	186	30,536	30,536	25	12	61	443	30,857	47	57,050	33,857	15	24

Digitized by Google

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside										Outside									Grand total inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	
Pennsylvania Coal Co.,	Luzerne,	15	45	18	1,724	1,753	637	96	30	498	420	5,221	2	5	137	194	287	154	8	851	1,578	6,809
Hillside Coal and Iron Co.,		3	9	1	305	423	26	10	8	229	25	1,106	1	1	27	35	90	20	1	226	411	1,517
Hudson Coal Co.,		3	3	11	481	443	133	10	14	133	27	1,253	....	3	13	65	16	42	4	198	341	1,604
Lehigh Valley Coal Co.		5	20	....	357	136	119	11	10	....	119	777	....	....	28	39	....	19	6	189	284	1,011
Delaware and Hudson Co.,		1	1	4	141	133	63	7	4	41	8	453	....	2	8	29	25	1	2	86	153	606
Traders Coal Co.,		1	....	3	100	95	34	6	2	20	21	282	1	1	6	8	12	8	1	37	69	351
Wilkes-Barre Colliery Co.,		1	1	1	16	22	12	....	4	28	29	124	1	1	4	5	7	....	1	20	39	163
McCauley Coal Co.		1	....	....	13	13	3	....	....	1	....	31	....	1	1	2	4	4	....	4	16	47
Totals,		30	79	38	3,197	3,078	1,029	140	72	945	659	9,267	5	17	229	317	441	243	23	1,566	2,841	12,106

Digitized by Google

TABLE 4.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Aug. 20	Nunzin Rossau, ...	Italian, ...	Laborer, ...	43	M.	1	....	Number 14, ...	Luzerne, ...	Fatally injured between cars on gangway road.
Sept. 17	Paul Biter, ...	Polish, ...	Laborer, ...	45	M.	1	....	Ewen, ...		Fatally injured by fall of rock at face of breast.
Oct. 6	Anthony Moleski, ...	Polish, ...	Miner, ...	28	M.	1	3	Number 14, ...		Killed by fall of fire clay roof at face of breast.
	Thomas Pointon, ...	American, ..	Miner, ...	60	M.	1	2	Number 9, ...		Fatally injured by fall of top coal.
9	Stanley Gray, ...	Russian, ...	Miner, ...	40	W.	....	3	Heidelburg No. 1,		Fatally injured by fall of roof.
18	Frank Belucie, ...	Italian, ...	Laborer, ...	45	M.	1	5	Ridgewood, ...		Killed by fall of rock at face of breast.
27	Frank Gudaitis, ...	Lithuanian,	Miner, ...	43	M.	1	5	Number 14, ...		Killed by fall of roof rock while standing prop.
Nov. 3	Anthony Nowak, ...	Polish, ...	Miner, ...	45	M.	1	5	Delaware, ...		Killed by fall of rider coal at face of breast.
4	Samuel Haddon, ...	Scotch, ...	Rock contractor.	45	M.	1	....	Number 9, ..		Instantly killed by blast.
	Thomas Williams, ...	American, ..	Runner, ...	26	M.	1	2			Fatally injured by blast.
12	Dominick Benardine, .	Italian, ...	Miner, ...	25	S.	....	....	Laflin, ...		Killed by fall of roof rock at face of breast.
18	Hermine Baldmore, .	Italian, ...	Laborer, ...	24	S.	....	....	Number 14, ...		Killed by fall of roof rock on gangway at foot of breast.
Dec. 3	Joseph Kearney, ...	American, ..	Laborer, ...	29	M.	1	2	Butler, ...		Killed by fall of roof rock at face of gangway.
10	Jesse Atwell, ...	English, ...	Miner, ...	40	M.	1	2	Laflin, ...		Fatally injured by rock falling from pillar.
29	Peter Berstides, ...	Lithuanian,	Laborer, ...	26	S.	....	....	Ewen, ...		Killed by fall of roof rock at face of gangway.

Digitized by Google

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
	5 William Susike,	Lithuanian,	Runner,	21	S.	Number 9,	Luzerne,	Leg broken by cars while riding between them.
	5 Raphael Kantor,	Polish,	Miner,	42	M.	Pine Ridge,		Leg broken by rock thrown by blast he was firing in breast.
	8 Charles Delines,	Italian,	Headman,	25	S.	Ewen,		Leg broken by prop timber he was unloading from railroad car. Outside.
	9 Andrew Shoestuck,	Slavonian,	Laborer,	21	S.	Laflin,		Head and hand cut. Fell from Marcy to Red Ash vein, a distance of 20 feet.
	14 Charles Pilla,	Italian,	Laborer,	3'	c	Number 6,		Leg broken by derailed car.
	John Mitchell,	American,	Driver,	19	S.	Number 6,		Arm broken by derailed car.
	Frank Margaitis,	Polish,	Miner,	39	M.	Number 14,		Leg broken by derailed car.
	16 William L. Morgan,	Welsh,	Fireboss,	35	M.	Heidelburg No. 1,		Leg bruised by flying coal from blast.
	23 Edward Kress,	American,	Runner,	19	S.	Number 9,		Leg broken by derailed car.
	30 John Mullen,	American,	Driver,	20	S.	Number 6,		Leg broken by cars. Fell off bumper.
Feb.	4 Apolla Muhalliki,	Italian,	Miner,	42	M.	Butler,		Wrist broken by run-away car on slope.
	Dennis Pinchot,	Italian,	Miner,	22	S.	Butler,		Arm broken by runaway car.
	6 Charles Popolarski,	Lithuanian,	Miner,	31	M.	Ewen,		Leg broken by fall of roof rock at face of breast.
	7 Michael Stehur,	American,	Slatepicker,	15	S.	Delaware,		Leg broken by falling down chute. Outside.
	10 John Kusiakka,	Russian,	Miner,	47	M.	Butler,		Leg broken by fall of rock while standing prop in breast.
	22 Joseph Kolesset,	Polish,	Driver,	18	S.	Number 14,		Leg broken by car while spragging it.
	26 Frank Hawanie,	Slavonian,	Footman,	25	M.	Butler,		Leg broken by car while putting it on cage.
March	4 John Hondo,	Russian,	Miner,	42	M.	Pine Ridge,		Face and hands burned by gas while drilling.
	6 Cerso Cuarithi,	Italian,	Miner,	31	S.	Laflin,		Leg broken by fall of rock at face of breast.
	17 Samuel Aprila,	Italian,	Laborer,	32	M.	Number 14,		Skull fractured by fall of rock in cross cut.
	27 Thomas Kabutch,	Slavonian,	Miner,	28	M.	Number 14,		Face and hands burned by gas in abandoned workings.
April	17 Dominick Sautza,	Russian,	Miner,	23	M.	Delaware,		Burned on hands and face in cross cut.
	John Patlock,	Russian,	Laborer,	24	M.			

Digitized by Google

TABLE 5.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Nov. 9	Ambrose Griffith, ...	Welsh, ...	Assistant mine foreman, ...	33	M.	Number 14, ...	Luzerne, ...	Face and hands burned by gas ignited by his open light.
12	Patrick McNulty, ...	American, ..	Miner, ...	35	M.	Barnum, ...		Head cut and bruised by fall of rock at face of breast.
18	George Reardon, ...	American, ..	Runner, ...	20	S.	Laflin, ...		Shoulder dislocated. Caught between roof and loaded car on gangway.
24	Charles Sartain, ...	American, ..	Laborer, ...	64	S.	Barnum, ...		Arm and shoulder broken by cars while attempting to run across track in front of trip. Outside.
Dec. 1	John Vasilchik, ...	Austrian, ...	Laborer, ...	49	M.	Madeira, ...		Nose broken by flying coal from blast he was firing.
15	Pasqual Bordick, ...	Italian, ...	Laborer, ...	22	S.	Ridgewood, ...		Back bruised by fall of rock at face of gangway.
22	Toney Lyseyski, ...	Polish, ...	Miner, ...	37	M.	Pine Ridge, ...		Face and hand burned by gas in old workings.

Digitized by Google

CONDITION OF COLLIERIES

PENNSYLVANIA COAL COMPANY

Barnum No. 9, Ewen, Nos. 6 and 14 Collieries.—Ventilation, drainage and condition as to safety good.

HILLSIDE COAL AND IRON COMPANY

Butler Colliery.—Ventilation, drainage and condition as to safety good.

HUDSON COAL COMPANY

Pine Ridge and Laflin Collieries.—Ventilation, drainage and condition as to safety good.

LEHIGH VALLEY COAL COMPANY

Mineral Spring and Heidelburg No. 1 Collieries.—Ventilation fair; drainage and condition as to safety good.

DELAWARE AND HUDSON COMPANY

Delaware Colliery.—Ventilation, drainage and condition as to safety good.

TRADERS COAL COMPANY

Ridgeway Colliery.—Ventilation fair; drainage and condition as to safety good.

WILKES-BARRE COLLIERY COMPANY

Madeira Colliery.—Ventilation good; drainage fair; condition as to safety good.

McCAULEY COAL COMPANY

Pickaway Colliery.—Ventilation and drainage fair; condition as to safety good.

IMPROVEMENTS

PENNSYLVANIA COAL COMPANY

No. 9 Colliery.—Installed new electrically driven ventilating fan, 10 by 5 feet, driven by a 20-horsepower motor and built a fan house 12 by 33 by 12 feet, corrugated iron sides and roof, with motor room 10 by 26 by 10 feet of similar material, for ventilating the Curtis slope. The Curtis was driven from the Checker vein through the rock to Pittston vein 200 feet, size 7 by 10 feet. Installed Seneca bank pickup plant, consisting of loading pocket, 17 by 20 by 40 feet, wooden structure, and 1,775 feet of belt and scraper line, the whole being operated by one 25-horsepower motor, one 65-horsepower motor and three 35-horsepower motors.

No. 8 shaft: Installed a new Dunmore pump, 20 by 12 by 30 inches, equipped with pot chambers, et cetera, in the Marcy vein near the foot of No. 3 shaft pumping station. The Clark vein plane was graded for haulage purposes, a total of 2,043 cubic yards of rock being removed. Completed a rock plane from the Marcy vein to the Pittston vein on a 12 per cent. degree grade, 7 by 14 by 346 feet.

Digitized by Google

Digitized by Google

SEVENTH DISTRICT

LUZERNE COUNTY

Wilkes-Barre, Pa., February 14, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit herewith the annual report of the Seventh Anthracite District for the year ending December 31, 1913.

Respectfully submitted,

THOMAS J. WILLIAMS,
Inspector.

Digitized by Google

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Lehigh and Wilkes-Barre Coal Co.,	20	1	21	20	.....	20	140,768	140,768	4,130	892	5,022	207	892	207	.....
Lehigh Valley Coal Co.,	12	1	13	25	2	27	163,432	78,448	2,576	591	3,167	215	591	103	296
Delaware and Hudson Co.,	2	1	3	4	.....	4	319,946	159,973	857	399	1,256	429	399	214	.....
Wilkes-Barre Anthracite Coal Co.,	3	.....	3	1	.....	1	78,627	226,882	824	87	411	108	.....	824	.....
Red Ash Coal Co.,	1	2	3	2	1	3	227,027	113,513	349	312	661	349	156	175	312
Risinger Brothers and Co., Inc.,	3	.....	3	1	.....	1	17,522	5,565	98	43	141	98	.....	98	.....
Pittston Coal Mining Co.,	1	.....	1	1	.....	1	33,282	33,282	142	51	193	142	.....	142	.....
Totals and averages for district,	42	5	47	54	3	57	142,029	110,467	8,476	2,375	10,851	202	475	157	792

Digitized by Google

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	....	1	....	....	4	1	....	....	....	1	....	....	7	16.67
Falls of slate,	....	1	....	....	1	1	....	1	....	1	....	....	5	11.91
Falls of roof,	1	2	1	....	....	....	....	....	....	....	....	....	4	9.52
Mine cars,	....	....	3	....	....	....	1	1	2	....	....	....	7	16.67
Explosions of gas,	....	....	....	1	1	....	....	....	1	....	1	....	4	9.52
Explosions of powder and dynamite,	....	....	....	1	....	....	....	....	....	....	....	....	1	2.38
Blasts, premature and otherwise,	....	1	....	....	4	....	....	....	....	....	1	....	6	14.29
Falling into shafts,	1	....	1	....	....	....	....	....	....	....	....	1	3	7.14
Struck by timber,	....	....	....	....	....	....	....	1	....	....	1	....	2	4.76
Machinery,	....	....	....	....	....	....	1	....	....	....	....	....	1	2.38
Struck by piece of coal,	1	....	....	....	....	....	....	....	....	....	....	....	1	2.38
Struck by piece of rock,	1	....	....	....	....	....	....	....	....	....	....	....	1	2.38
Totals,	4	5	5	2	10	2	2	3	3	2	3	1	42	100.00
Causes of Accidents Outside														
Cars,	....	1	....	1	....	....	1	....	....	1	....	....	4	80.00
Smothered by rush of culm rock,	....	....	....	....	....	1	....	....	....	....	....	....	1	20.00
Totals,	....	1	....	1	....	1	1	....	....	1	....	....	5	100.00
Grand totals inside and outside,	4	6	5	3	10	3	3	3	3	3	3	1	47	.....

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	2	....	....	1	1	....	1	....	....	....	....	1	6	11.11
Falls of slate,	....	....	....	....	....	1	....	....	....	....	....	....	1	1.85
Falls of roof,	3	....	....	....	....	....	....	1	....	....	....	1	5	9.26
Mine cars,	1	1	....	....	....	1	1	3	2	3	3	3	18	33.33
Explosions of gas,	....	....	....	1	2	....	1	1	2	....	....	....	7	12.96
Explosions of powder and dynamite,	....	....	....	....	....	....	....	....	....	1	....	....	1	1.85
Blasts, premature and otherwise,	....	....	....	....	....	1	1	....	....	3	1	1	7	12.96
Falling down chamber,	....	....	..	....	....	1	....	....	....	....	....	....	1	1.85
Struck by timber,	....	....	1	....	....	....	1	....	....	....	....	....	2	3.71
Struck by piece of coal,	....	....	1	....	1	1	....	....	....	....	....	....	3	5.56
Struck by rope,	....	1	....	....	....	1	....	....	....	....	....	....	2	3.71
By falling,	1	....	....	....	....	....	....	....	....	....	....	....	1	1.85
Totals,	7	2	2	2	4	6	5	5	4	7	4	6	54	100.00
Causes of Accidents Outside														
Cars,	....	....	....	....	....	....	1	....	1	....	....	....	2	66.67
Struck by piece of coal,	....	....	....	....	....	....	....	....	....	....	....	1	1	33.33
Totals,	....	....	....	....	....	....	1	....	1	....	....	1	3	100.00
Grand totals inside and outside,	7	2	2	2	4	6	6	5	5	7	4	7	57	.....

Digitized by Google

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Lehigh and Wilkes-Barre Coal Co.															
Stanton No. 7 Colliery:															
Stanton,	Slope, ..	Gaseous, ..	Fan, ...	35	11.7	8.9	45	1.5	Guibal, ...	Steam,.....	31	544,780	500,080	587,670	1,015
Stanton,	Shaft,...			34.5	11.9	8.45	45	1.5							
Empire No. 4,	Shaft,...			24	8	6	60	1.2							
Maxwell No. 20 Colliery:															
Maxwell No. 1,	Slope, ..	Gaseous, ..	Fan, ...	25	8.2	6.3	72	1.8	Guibal, ...	Steam,.....	23	470,520	434,020	497,710	668
Maxwell No. 2,	Shaft,...			24	8	6	72	1.8							
Maxwell No. 3,	Shaft,...			35	11.9	8.9	45	1.3							
Maxwell No. 4,	Shaft,...			35	11.9	8.9	45	1.3							
South Wilkes-Barre No. 5 Colliery:															
South Wilkes-Barre No. 1	Shaft,...	Gaseous, .	Fan, ...	35	11.9	8.9	45	1.5	Guibal, ...	Steam,.....	43	470,990	398,075	528,496	811
South Wilkes-Barre No. 2				35	11.9	8.9	45	1.5							
South Wilkes-Barre No. 3				35	11.9	8.9	45	1.9							
South Wilkes-Barre No. 4				35	11.0	8.9	45	1.9							
Hollenback No. 2 Colliery:															
Hollenback No. 1,	Shaft,...	Gaseous, .	Fan, ...	35	11.6	8.0	45	1.4	Guibal, ...	Steam,.....	19	295,200	266,540	345,000	533
Hollenback No. 2,	Slope, ..			24	7.11	6.0	60	1.4							
Hollenback No. 3,	Slope, ..			35	11.9	8.9	45	1.7							
Hollenback No. 4,	Shaft,...			35	11.9	8.9	45	1.7							

Digitized by Google

Sugar Notch No. 9 Colliery:																
Sugar Notch,	Shaft,	Gaseous,	Fan,	20	6.8	5.0	70	1.3	Guibal,	Steam,	14	370,130	315,160	462,000	510
Sugar Notch,	Tunnel,	Gaseous,	Fan,	24	8	6	60	1.3							
Lehigh Valley Coal Co.																
Dorrance Colliery:																
Baltimore,	Shaft,	Gaseous,	Fan,	28	8	8	60	1.7	Guibal,	Steam,	10	230,000	209,920	261,427	314
Hillman,	Shaft,	Gaseous,	Fan,	35	12	10.6	47	1.9							
			Fan,*	30	10	8	54	1.9	Guibal,	Steam,	8	174,000	165,400	181,573	352
Henry Colliery:																
Henry,	Shaft,			30	10	8	54	2.7			5	106,430	58,830	120,620	86
Henry,	Shaft,			28	6.6	7.6	46	1.6			4	88,780	85,800	10,500	182
Wyoming,	Shaft,	Gaseous,	Fan,	25	7	6	50	1.1	Guibal,	Steam,	9	89,780	77,340	106,925	108
Red Ash,	Shaft,			28	6.6	7.6	52	1.7			6	185,128	150,462	206,266	205
Five Foot,	Slope,			20	6	5.3	60	.9			6	75,926	64,684	96,921	128
Prospect Colliery:																
Prospect,	Shaft,			30	9	8	52	1.7			8	153,200	115,430	157,500	200
Oakwood,	Shaft,	Gaseous,	Fan,	30	9	8	52	1.8	Guibal,	Steam,	6	159,219	129,155	163,801	280
Midvale,	Slope,			20	6.6	5.3	66	1.2			7	98,720	98,720	106,350	153
Franklin Colliery:																
Rock Slope,	Slope,	Gaseous,	Fan,	20	6	5.9	80	1.7			5	92,400	90,400	94,800	157
Kidney,	Slope,	Gaseous,	Fan,	14	6	4	80	.8	Guibal,	Steam,	3	63,400	60,400	64,900	63
Sump and Baltimore,	Slope,	Gaseous,	Fan,	15	4.6	4.6	80	2.1			2	27,500	26,300	29,100	44
			Fan,*	15	4.6	4.6	80	2.1							
Franklin,	Drift,	Non-gas.,	Natural,	.....	.....	.....	.....	.....	.....	.....	3	21,600	18,400	22,900	75
Warrior Run Colliery:																
Warrior Run No. 4,	Slope,	Gaseous,	Fan,	20	6	5	75	1.2	Guibal,	Steam,	5	121,150	129,950	129,950	104
Warrior Run No. 4,	Slope,	Gaseous,	Fan,	14	4	4	75	.8	Guibal,	Steam,	2	28,000	29,500	29,500	71
Delaware and Hudson Co.																
Baltimore No. 5 Colliery:																
Baltimore No. 2,				17.5	5.3	4.8	64	2.2			4	126,385	109,895	141,975	160
Baltimore No. 5,				28	7	5.6	65	2.8			5	192,605	168,050	207,130	213
Baltimore No. 5,	Shaft,	Gaseous,	Fan,	28	7	5.6	65	2.8	Guibal,	Steam,					
Conyngham Hillman,				20	5.8	5	78	1.8			3	85,770	80,640	80,930	88
Conyngham Baltimore,				17	5.4	4	90	1.7			4	102,920	91,350	125,960	23
Baltimore Tunnel Colliery:																
Baltimore Tunnel,	Shaft,	Gaseous,	Fan,	8	3	2.2	75	.8	Guibal,	Steam,	3	212,000	18,430	23,120	81
Baltimore Tunnel,	Tunnel,	Gaseous,	Fan,	18	6	5	52	1	Guibal,	Steam,	4	97,310	78,820	116,550	128
Wilkes-Barre Anthracite Coal Co.																
Hillman Vein Colliery:																
Hillman Vein,	Shaft,	Gaseous,	Fan,	30	9.9	8.8	54	.6	Tamaqua,	Steam,	4	92,200	73,300	107,100	324

*Emergency fan.

Digitized by Google

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives: Number of pounds of powder used	Explosives: Number of pounds of dynamite used	Explosives: Number of pounds of permissible explosives used	Number of horses and mules
Lehigh and Wilkes-Barre Coal Co.													
Stanton No. 7,	Luzerne,	621,499	54,811	15,949	692,259	273	1,317	4	1	598,900	15,873	15,865	137
Maxwell No. 20,		566,455	44,344	11,767	622,566	239	952	5	6	400,250	9,059	40,728	110
South Wilkes-Barre No. 5,		468,612	47,301	104,717	620,630	240	1,214	8	9	456,800	18,750	67,781	130
Hollenback No. 2,		375,330	43,885	53,501	472,716	245	846	2	3	379,975	12,560	28,660	86
Sugar Notch No. 9,		280,436	28,997	3,603	313,036	217	655	2	1	154,900	16,386	100,549	79
		2,312,332	219,338	189,537	2,721,207	.....	4,984	21	20	1,990,825	72,628	263,583	542
Empire Washery,	Luzerne,	93,364	485	311	94,160	190	38	.....	.....	.....	.....	.....	8
Totals,		2,405,696	219,823	189,848	2,815,367	.....	5,022	21	20	1,990,825	72,628	263,533	550
Lehigh Valley Coal Co.													
[illegible]rance,	Luzerne,	434,497	52,380	46,875	533,752	250	786	4	3	378,700	61,494	12,625	69
[illegible]ey,		458,520	42,416	5,370	506,305	*	832	6	7	264,250	231,900	.....	141
[illegible]reet,		286,333	55,972	.....	442,305	247	841	.....	6	275,875	44,647	.....	104
[illegible]in,		272,780	27,456	6,640	316,876	253	488	1	8	196,750	61,338	.....	95
[illegible]er Run,		143,497	17,570	887	161,954	*	220	2	3	83,750	4,247	6,850	31
[illegible]		1,595,627	205,793	59,772	1,961,192	.....	3,167	13	27	1,199,325	403,626	19,475	440

[redacted] No. 5, ... Tunnel, ...	Luzerne,	321,126 182,933	12,922 1,714	4,070 3,787	337,218 188,434	224 198	362 394	2 1	2 2	258,900 116,650	2,827 2,087	38	75 17
		504,059	13,736	7,857	525,652	.....	1,256	3	4	375,550	5,914	38	92
[redacted]more Tunnel Washery, ...	Luzerne, ...	.....	114,239	.....	114,239	198	†	.....	.....	.....	.....	.....	.....
Totals, ...	.....	504,059	127,975	7,857	639,891	.....	1,256	3	4	375,550	5,914	38	92
[redacted]lkes-Barre Anthracite Coal Co.													
Vein, ...	Luzerne,	159,973	45,000	13,067	218,040	284	399	3	1	107,000	14,500	15,400	27
Vein Washery, ...		17,842	.....	.....	17,842	113	12	.....	.....	.....	.....	.....	.....
[redacted]ls, ...	.....	177,815	45,000	13,067	235,882	.....	411	3	1	107,000	14,500	15,400	27
Red Ash Coal Co.													
No. 2, ...	Luzerne,	161,622	.....	6,484	168,106	172	661	3	3	90,100	48,500	.....	58
Washery, ...		48,455	9,414	1,052	58,921								
[redacted]tals, ...	.....	210,077	9,414	7,536	227,027	.....	661	3	3	90,100	48,500	.....	58
Rissinger Brothers and Co., Inc.													
Miners Mills, ...	Luzerne, ...	49,012	2,000	1,553	52,565	243	141	3	1	63,150	2,500	.....	11
Pittston Coal Mining Co.													
Hadleigh, ...	Luzerne, ...	26,925	6,300	57	33,282	136	193	1	1	16,200	3,700	15,350	12
Grand totals, ...	.....	5,069,211	616,305	279,690	5,965,206	.....	10,851	47	57	3,842,150	551,368	313,796	1,190

†Included with employes at Baltimore Tunnel.

Digitized by Google

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Lehigh and Wilkes-Barre Coal Co.,	Luzerne,	23	21	19	21	19	21	19	14	19	23	19	21	229
Lehigh Valley Coal Co.,		24	22	16	20	22	23	19	19	20	22	22	21	250
Delaware and Hudson Co.,		21	19	20	19	17	13	12	16	13	19	15	17	211
Wilkes-Barre Anthracite Coal Co.,		24	23	24	24	24	23	23	24	24	26	21	24	284
Red Ash Coal Co.,		17	17	12	8	12	10	12	13	15	19	13	19	172
Rissinger Brothers and Co., Inc.,		24	21	20	15	23	20	20	19	13	22	21	20	243
Pittston Coal Mining Co.,		.....	.....	.....	.....	.....	9	17	19	22	27	25	23	136

Digitized by Google

TABLE 4.—Fatal accidents inside and outside of mines

Date of ac.	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 23	Thomas Chernoskie, ..	Polish,.....	Laborer, ...	38	M.	1	5	Dorrance, ...	Luzerne,	Instantly killed by falling off cage into shaft.
	Albert Beverly, ...	English, ...	Laborer, ...	36	S.	....	....	Stanton No. 7, ...		Fatally injured by fall of rock from side of shaft.
25	John Fedor, ...	Austrian, ..	Miner, ...	24	M.	1	....	Red Ash No. 2, ...		Fatally injured by fall of roof at face of gangway.
29	John Price, ...	Welsh, ...	Laborer, ...	54	M.	1	3	Sugar Notch No. 9,..		Instantly killed by fall of coal from chute in chamber.
Feb. 10	Peter Wesneskie, ...	Polish,.....	Miner, ...	52	M.	1	....	Stanton No. 7, ...		Instantly killed by fall of coal at face of chamber.
21	George Hires, ...	Slavonian, ..	Miner, ...	57	M.	1	....	Miners Mills, ...		Instantly killed by fall of slate at face of chamber.
	Steve Maloney, ...	American, ..	Driver, ...	19	S.	....	....	Red Ash No. 2, ..		Fatally injured by cars on stripping. Outside.
	Thomas Thomas, ...	Welsh, ...	Laborer, ...	48	M.	1	4	Miners Mills, ...		Instantly killed by blast in cross cut.
27	Watslof Manovitch, ..	Polish,.....	Miner, ...	36	M.	1	3	Henry, ...		Fatally injured by fall of roof near face of chamber.
	Anthony Rumsis, ...	Lithuanian,	Laborer, ...	32	M.	1	....	Stanton No. 7, ...		Fatally injured by fall of roof at face of chamber.
March 4	William Hornick, ...	Russian, ...	Laborer, ...	40	M.	1	3	Hillman Vein, ...		Fatally injured by cars on slope.
11	Charles Stan, ...	Russian, ...	Laborer, ...	30	S.	....	....	Hillman Vein, ...		Fatally injured by falling down shaft.
16	Patrick Grove, ...	Italian, ...	Driver, ...	24	S.	....	....	South Wilkes-Barre No. 5,		Fatally injured by cars in tunnel.
19	Joseph Solvent, ...	Russian, ...	Miner, ...	25	M.	1	1	Dorrance, ...		Fatally injured by fall of roof at face of gangway.
30	Michael Hoodock, ...	Russian, ...	Headman, ...	22	S.	....	....	Baltimore No. 5, ..		Instantly killed by cars on slope.
April 9	George Hudock, ...	Slavonian, ..	Miner, ...	32	M.	1	4	Maxwell No. 20, ...		Instantly killed by explosion of gas on plane.
28	Fred Meiman, ...	German, ...	Laborer, ...	76	M.	1	4	Baltimore Tunnel, ..		Instantly killed by railroad cars. Outside.
30	Frank Holshelfski, ...	Polish,.....	Laborer, ...	22	S.	....	....	Henry, ...		Fatally burned by explosion of powder at face of chamber.
May 6	Anthony Shesko, ...	Lithuanian,	Miner, ...	30	M.	1	2	South Wilkes-Barre No. 5,		Instantly killed by premature blast at face of chamber.
	Andrew Wasnatis, ...	Lithuanian,	Laborer, ...	30	S.	....	....	South Wilkes-Barre No. 5,		Fatally injured by premature blast at face of chamber.

Digitized by Google

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 18	Joseph Zaleskie, ...	Polish,.....	Laborer, ...	21	S.	Baltimore Tunnel, ...	Luzerne,	Ribs fractured by fall of coal at face of chamber.
23	John Sabinski, ...	Russian, ...	Laborer, ...	42	M.	Warrior Run, ...		Leg fractured by fall of roof at face of chamber.
	Joseph Barnick, ...	Greek,.....	Laborer, ...	29	M.	Warrior Run, ...		Seriously injured by fall of roof at face of chamber.
24	Michael Cunningham,	Irish, ...	Pumpman, ...	42	M.	Baltimore No. 5, ...		Collar and wrist fractured by falling off top of pump.
25	Roman Blostick, ...	Polish,.....	Miner, ...	22	S.	Warrior Run, ...		Leg fractured by fall of coal at face of chamber.
27	Anthony Malloy, ...	American,..	Driver, ...	24	S.	Maxwell No. 20, ...		Seriously injured by cars on gangway.
28	Adam Petal, ...	Polish,.....	Miner, ...	48	M.	South Wilkes-Barre No. 5,		Seriously injured by fall of roof at face of chamber.
Feb. 17	Edmund Reese, ...	Welsh,.....	Timberman, ...	31	M.	Prospect, ...		Leg fractured by cars on gangway.
27	Thomas Larkin, ...	American,..	Footman, ...	23	M.	Dorrance, ...		Leg fractured by being struck by rope at foot of slope.
March 20	Charles Wagner, ...	American,..	Laborer, ...	23	M.	Baltimore No. 5, ...		Leg fractured by prop falling on him in chamber.
25	Anthony Yantz, ...	Polish,.....	Miner, ...	49	M.	Baltimore Tunnel, ...		Leg fractured by coal rolling on him in chamber.
April 9	John H. Dawe, ...	English, ...	Fire boss, ...	57	M.	Maxwell No. 20, ...		Seriously burned by explosion of gas on plane.
26	Andrew Lescavage, ..	Lithuanian,	Miner, ...	46	M.	Franklin, ...		Leg fractured by fall of coal at face of chamber.
[illegible]y 7	Frank Chickoskie, ...	Polish,.....	Miner, ...	36	M.	Henry, ...		Severely burned by explosion of gas at face of chamber.
24	Lisander Marconi, ...	Italian,.....	Miner, ...	33	M.	Franklin, ...		Leg fractured by being struck by piece of coal in chute.
26	Adolph Mickalonis, ...	Lithuanian,	Miner, ...	26	S.	Maxwell No. 20, ...		Slightly burned by explosion of gas at face of chamber.
27	Enoch C. Williams, ..	Welsh,.....	Miner, ...	51	M.	Maxwell No. 20, ...		Leg fractured by fall of coal in cross cut.
[illegible]	Mike August, ...	Austrian, ..	Miner, ...	48	M.	Hollenback No. 2, ...		Leg fractured by blast at face of chamber.
[illegible]	Wadaic Sewitskie, ...	Polish,.....	Laborer, ...	21	S.	Sugar Notch No. 9, ...		Leg fractured by falling down chamber.
[illegible]	Charles Legas, ...	Lithuanian,	Miner, ...	39	M.	Red Ash No. 2, ...		Leg fractured by fall of slate at face of chamber.

	21	Adam Opik,	Slavonian,	Laborer,	53	M.	Red Ash No. 2,			Ankle fractured by fall of coal on slope.
	24	Thomas Lally,	American,	Engineer,	50	M.	Dorrance,			Legs fractured by being struck by rope on slope.
	25	Frank Dinian,	American,	Headman,	31	M.	Henry,			Legs fractured by cars on slope.
	1	Joseph Raduts,	Lithuanian,	Laborer,	28	S.	South Wilkes-Barre No. 5,			Slightly burned by explosion of gas at face of chamber.
	8	Peter Davitt,	Polish,	Laborer,	47	M.	South Wilkes-Barre No. 5,			Toe cut off by piece of falling timber in chamber.
	14	Alexander Munkcul,	Italian,	Miner,	38	M.	Henry,			Seriously injured by premature blast at face of chamber.
	15	George Bedwarick,	Polish,	Driver,	18	S.	Franklin,			Leg and thigh broken by cars on gangway.
		John Gulunskie,	Polish,	Miner,	27	M.	Franklin,			Leg broken by fall of coal at face of chamber.
	29	Mike Hafosto,	Russian,	Loader,	40	M.	Dorrance,			Pelvis fractured by cars under breaker. Outside.
	7	Peter Kochuba,	Polish,	Driver,	18	S.	Franklin,			Leg fractured by cars in chamber.
	14	Robert Williams,	Welsh,	Miner,	38	S.	Hillman Vein,			Leg fractured by fall of roof at face of chamber.
	22	John Debosh,	Austrian,	Miner,	27	S.	Hollenback No. 2,			Slightly burned by explosion of gas at face of chamber.
	25	Edmund Mullen,	American,	Driver,	19	S.	Maxwell No. 20,			Leg fractured by cars at foot of plane.
	29	Edward Smith,	Irish,	Oiler,	18	S.	Hadleigh,			Slightly injured by cars on slope.
Sept.	15	Joseph Matusic,	Polish,	Bratticeman,	32	S.	Prospect,			Slightly burned by explosion of gas in old workings.
		Goulage Hilbire,	American,	Assistant foreman,	36	M.	Prospect,			Leg fractured by railroad cars near breaker. Outside.
	25	Peter Nobols,	Russian,	Loader,	31	M.	Franklin,			Toe crushed by cars at foot of slope.
		Enoch Lavindoskie,	Russian,	Driver,	26	S.	Prospect,	Luserne,		Leg fractured by cars at foot of shaft.
	26	Vincent Olliski,	Slavonian,	Footman,	19	S.	Prospect,			Arm fractured by explosion of blast at face of chamber.
Oct.	2	Mike Switch,	Slavonian,	Miner,	26	M.	Henry,			Leg fractured by explosion of blast at face of chamber.
	13	Hugh Roberts,	Welsh,	Miner,	40	M.	Maxwell No. 20,			Thigh fractured by runaway car on gangway.
	27	John Ruddy,	American,	Doorboy,	16	S.	Prospect,			Severely burned by explosion of powder at face of chamber.
		Joseph Zak,	Polish,	Miner,	21	S.	South Wilkes-Barre No. 5,			Shoulder fractured by cars on gangway.
	24	Leo Gorham,	American,	Patcher,	17	S.	South Wilkes-Barre No. 5,			Leg fractured by cars on gangway.
	25	Adam Studioskie,	Polish,	Laborer,	52	S.	Henry,			Arm fractured by blast at face of chamber.
	27	Nicholas Manaco,	Italian,	Miner,	27	M.	Franklin,			Collar bone fractured by cars at foot of shaft.
Nov.	3	James Owens,	American,	Driver,	22	S.	South Wilkes-Barre No. 5,			Hand crushed by cars on gangway.
	5	J. B. Williams,	Welsh,	Engineer,	36	M.	South Wilkes-Barre No. 5,			Arm fractured by blast at face of chamber.
	10	Stanley Cocheskie,	Polish,	Miner,	25	S.	Henry,			Arm injured by cars on gangway.
	19	George Wansack,	Polish,	Driver,	18	S.	Henry,			Ankle fractured by fall of roof on chamber road.
Dec.	2	Alex Cherbouskis,	Lithuanian,	Miner,	29	M.	South Wilkes-Barre No. 5,			Arm fractured by cars at foot of plane.
	10	John C. Thomas,	Welsh,	Driver,	54	M.	Stanton No. 7,			Leg fractured by fall of coal on stripping. Outside.
	15	Charles Waruska,	Slavonian,	Laborer,	20	S.	Red Ash No. 2,			Seriously injured about body by cars on gangway.
	19	John Haley,	Polish,	Driver,	23	S.	Miners Mills,			

Digitized by Google

Hollenback No. 2 Colliery.—Inside: Completed tunnel Stanton to Stanton; Rock plane airway Kidney to Abbott; Nos. 33 and 34 tunnels Stanton to Stanton; No. 35 tunnel top to bottom Red Ash; tunnel, bottom to top, Red Ash, 3rd east, No. 1 plane; No. 36 tunnel, bottom to top, Red Ash and No. 37 tunnel, bottom to top, Red Ash.

Outside: Completed wash house.

Sugar Notch No. 9 Colliery.—Completed No. 24 tunnel Baltimore to Five Foot; Rock plane airway Kidney to surface; No. 28 tunnel Hillman to Hillman; No. 29 tunnel Twin to Ross and installed 10 by 36-inch compound pump on shaft level.

Outside: Completed wash house.

LEHIGH VALLEY COAL COMPANY

Henry Colliery.—In the Wyoming Five Foot slope a tunnel 145 feet long was driven through a fault to the Five Foot vein. The manway in this vein was also extended to the bottom of the slope. A concrete barn to accommodate 30 mules was constructed in the Hillman vein. In the Henry Five Foot vein a new concrete hospital and a fire boss station were erected. A manway from the second life west to the head of No. 14 slope in the Five Foot vein was started. A concrete waiting room was built in the Skidmore Landing in the tender shaft to accommodate the men waiting for the cage. A tunnel 675 feet long was driven from the Baltimore vein from which one 3-inch and two 6-inch holes were drilled to tap the water at the Maltby colliery. A new manway parallel to No. 28 slope in the Red Ash vein was driven.

Outside: The old boiler house was converted into a locomotive house. A new engine house was built for the Wyoming Five Foot slope and the engines from the Prospect-Hillman slope were transferred to this house. A new outside hospital was also erected. A 20-inch terra cotta line was installed to take care of the discharge of the Henry pumps and also the surface water, conveying it to a ditch at the Port Bowkley station. A 28 by 17½ by 20 by 30-inch Norwalk compressor was added to the power plant. Drilling operations for determination of rock cover were carried on in the Susquehanna river. A manway was driven from the surface to the Five Foot vein, and the Henry Shaft was abandoned for hoisting. The head frame at the old Wyoming shaft was torn down and a concrete wall placed around the shaft. The landing at the Red Ash Tender shaft was raised and the yard in the vicinity was filled in and the tracks rearranged.

Dorrance Colliery.—Fireproof hospitals were built in the Hillman and Red Ash veins. A concrete fire boss station was also built in the Hillman vein. Three concrete overcasts were started in the Red Ash vein, two in No. 24 slope district and one in No. 23 slope district. Completed reinforced concrete pump rooms in the Hillman and Baltimore veins and installed two 1,500-gallon pumps. A 15-degree rock plane 45 feet long was driven through a fault from the Cooper to Cooper vein. Second opening on 30 degrees was also driven. A tunnel from the Cooper to the Bennett vein was started. A small pump was placed at the foot of No. 24 slope, Red Ash [redacted]. Removed two 16 by 20-inch engines on No. 20 slope, Baltimore [redacted]

Outside: An extension to the River pump house [redacted] larger pump installed. The loading of refuse int[redacted]

tinued. Installed two Williams crushers in order that the refuse could be silted into the mines. A 14-inch bore hole was drilled from the surface to the Baltimore vein for that purpose. A concrete ditch was constructed from the boiler house to the bore hole in order to flush ashes into the mines. An outside hospital was also constructed. A ditch for the installation of steam lines from the Dorrance Colliery to the new office building was constructed and the lines laid.

Prospect Colliery.—The rock work for the installation of the large pump in the Midvale-Hillman vein was completed and concrete side walls were started. A 15-degree rock plane was driven from the Upper Baltimore through a fault to the Five Foot vein. The work of fireproofing the barns in the Baltimore and Red Ash veins was completed. Roof supports were placed in the Midvale slope to support the engine house. A concrete overcast was built in the Red Ash vein. An electric hoist was placed on No. 26 slope, the new slope being driven in the Skidmore vein.

Outside: The Midvale-Hillman slope and No. 10 slope engine houses were made fireproof. A concrete retaining wall was built along the plank road east of Midvale shop. Two 8-inch bore holes were drilled from the surface to the Hillman vein for the purpose of silting boiler ashes. A concrete ditch was constructed to carry ashes from the boiler house to the bore hole. An addition to the small pump house was made to serve as an outside hospital. A mess house which was provided with all conveniences for the employes was completed.

Franklin Colliery.—Concrete batteries were built in the Baltimore vein under the new breaker to allow openings to be filled with silt. A new concrete fire boss station was started in the top Red Ash vein at the head of No. 9 slope. An 18-degree rock plane 150 feet long was driven from the bottom to the top Red Ash vein to mine a basin of virgin coal.

Outside: A new steel breaker to replace the old wooden structure was constructed. A new fireproof office and shop of tile was started. Concrete reservoir was constructed and a 12 inch C. I. pipe line was laid to conduct the water from Worthington pump bore hole to the reservoir. Installed new heads at the Rock and Long slopes. A new fuel conveyor line from the breaker to the boiler house was constructed. One 16 inch and two 8 inch holes were drilled from the surface to the Red Ash vein, a distance of 450 feet, to conduct the silt from the breaker to the mines. A 6 inch hole was drilled from the surface to the old Baltimore workings for drainage of the condemned coal conveyor pit. The Long slope engine house was reconstructed of fireproof material. A 16 by 20 inch engine was placed on the Brown slope to facilitate haulage.

Warrior Run Colliery.—Drove a tunnel from the Hillman to the Five Foot vein, a distance of 505 feet, for which a second opening 230 feet long from the Five Foot to the Hillman vein, was started. A concrete overcast for the return air from the Mills vein was built in the Hillman vein. No. 8 tunnel from the C to the D vein was completed. The mouth of the B vein slope was concreted.

Outside: A concrete fan house over the E vein shaft was completed. The outside plane engine house was made fireproof. A new hospital 10 by 14 feet was also constructed of fireproof material. Part of the wooden flume to conduct water across the property was reconstructed.

Digitized by Google

Digitized by Google

EIGHTH DISTRICT

LUZERNE AND LACKAWANNA COUNTIES

Pittston, Pa., February 21, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor of transmitting herewith the annual report of the Eighth Anthracite District for the year ending December 31, 1913.

Respectfully submitted,

S. J. JENNINGS, Inspector.

Digitized by Google

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Lehigh Valley Coal Co.,	14	1	15	14	4	18	124,742	124,742	2,369	737	3,106	169	737	169	184
Kingston Coal Co.,	7	.....	7	.....	1	1	95,722	.....	981	409	1,390	140	.....	.....	409
Forty Fort Coal Co.,	10	.....	10	7	.....	7	56,421	79,172	1,096	296	1,392	110	.....	157	.....
Mt. Lookout Coal Co.,	5	.....	5	2	.....	2	75,165	125,274	621	146	767	124	.....	207	.....
East Boston Coal Co.,	3	.....	3	6	.....	6	62,096	31,048	320	153	473	106	.....	53	.....
Plymouth Coal Co.,	3	.....	3	7	.....	7	61,972	26,560	370	121	491	123	.....	53	.....
Raub Coal Co.,	3	.....	3	3	1	4	43,000	43,000	281	135	416	93	.....	93	135
Delaware, Lackawanna and Western Railroad Co.,	.....	.....	.....	.....	1	1	.....	.....	273	39	312	.....	.....	.....	39
Bissinger Brothers and Co., Inc.,	1	.....	1	1	.....	1	40,821	40,821	73	35	108	73	.....	73	.....
Totals and averages for district,	46	1	47	41	7	48	87,231	97,869	6,334	2,071	8,455	139	2,071	154	296

Digitized by Google

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of slate,	....	1	....	....	....	1	....	....	....	1	....	....	3	6.52
Falls of roof,	4	....	2	1	3	....	....	1	1	2	1	3	18	39.13
Mine cars,	1	....	3	1	....	2	....	2	1	....	1	1	12	26.09
Explosions of powder and dynamite,	....	1	....	....	....	....	....	....	....	....	....	....	1	2.18
Blasts, premature and otherwise,	2	....	....	1	2	....	....	2	1	....	1	....	9	19.57
Falling into shafts,	....	....	....	....	....	1	....	....	....	....	....	....	1	2.17
Struck by timber,	....	....	....	....	....	....	....	....	1	....	....	....	1	2.17
Mules,	....	....	....	....	....	....	1	....	....	....	....	....	1	2.17
Totals,	7	2	5	3	5	4	1	5	4	3	3	4	46	100.00
Causes of Accidents Outside														
By cage,	....	....	....	....	....	....	....	1	....	....	....	....	1	100.00
Totals,	....	....	....	....	....	....	....	1	....	....	....	....	1	100.00
Grand totals inside and outside,	7	2	5	3	5	4	1	6	4	3	3	4	47	.....

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	1	1	....	....	....	....	....	....	....	....	....	....	2	4.88
Falls of slate,	....	1	1	1	....	....	....	....	1	....	....	....	4	9.76
Falls of roof,	1	....	....	1	3	....	1	1	1	2	....	....	10	24.39
Mine cars,	2	....	1	1	2	4	1	....	....	3	....	1	15	36.58
Explosions of gas,	....	....	....	....	....	....	....	....	....	....	....	1	1	2.44
Explosions of powder and dynamite,	....	....	....	1	....	....	....	....	....	....	....	....	1	2.44
Blasts, premature and otherwise,	....	1	....	....	....	....	....	....	....	....	1	1	3	7.31
Struck by piece of coal,	....	1	....	....	....	....	....	....	....	....	....	....	1	2.44
Struck by timber,	....	....	....	....	....	....	....	....	....	....	1	....	1	2.44
Door on gangway.	....	....	....	....	....	....	....	....	....	....	....	1	1	2.44
By cage,	....	1	....	....	....	....	....	....	....	....	....	....	1	2.44
Machinery,	1	....	....	....	....	....	....	....	....	....	....	....	1	2.44
Totals,	5	5	2	4	5	4	2	1	2	5	2	4	41	100.00
Causes of Accidents Outside														
Cars,	....	1	....	1	....	....	....	....	1	....	....	....	3	42.86
Machinery,	....	1	....	....	....	....	....	....	....	....	....	....	1	14.29
By falling,	....	....	....	....	....	....	....	....	....	1	....	....	1	14.28
Struck by timber.	2	....	....	....	....	....	....	....	....	....	....	....	2	28.57
Totals,	2	2	....	1	....	....	....	....	1	1	....	....	7	100.00
Grand totals inside and outside,	7	7	2	5	5	4	2	1	3	6	2	4	49	.....

Digitized by Google

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Lehigh Valley Coal Co.															
Exeter Colliery:															
Red Ash,	Shaft, ..	Gaseous,	2 Fans,	20	6.8	5.10	76	1.	Guibal, ...	Steam,	4	95,706	70,630	115,063	140
				20	6.8	5.10	76	1.			5	91,454	50,639	107,101	180
Pittston,			Fan,	20	5.11	5.11	60	1.2			4	70,435	57,477	74,532	180
*Knight,			Fan,	22	6.11	6.7	60	1.5			5	133,206	117,014	144,140	142
Maltby Colliery:															
No. 2,	Shaft, ...	Gaseous, ..	2 Fans,	25	8.11	6.10	72	2.	Guibal, ...	Steam,	10	155,850	124,685	187,160	481
Four Foot,	Slope, ...	Non-gas.		20	5.11	5.8	82	2.5			2	60,465	45,360	65,650	15
	Tunnel, ...		Fan,	12	4.	4.	82	.5							
Seneca Colliery:															
Twin,	Shaft, ..	Gaseous, ..	Fan, ...	24	8.	6.	74	2.2	Guibal, ...	Steam,	5	152,000	91,000	168,000	225
*Coxey,				20	6.	6.	80	1.2			4	93,000	74,000	105,000	158
Pittston,				20	6.	6.	50	.8			1	40,000	18,000	41,000	24
William A. Colliery:															
William A.,	Shaft, ...	Non-gas.	Fan, ...	18	5.	5.	75	.7	Guibal, ...	Steam,	4	62,000	60,500	63,000	79
*Lawrence,	Shaft, ...			18	5.	5.	75	.8			6	59,500	57,000	59,800	100
*Babylon,	Shaft, ...			20	5.	5.	80	1.			4	89,700	87,500	92,000	93
No. 10,	Tunnel, ...			8.6	3.9	2.	200	1.2			3	53,300	54,000	54,000	135
Westmoreland Colliery:															
No. 1,	Tunnel, ...	Gaseous, ..	Fan, ...	20	6.	6.	79	2.	Guibal, ...	Steam,	5	113,000	95,000	117,000	244
Stevens Colliery:															
*No. 1,	Shaft, ..	Gaseous, ..	Fan, ...	22	6.	7.	72	1.	Guibal, ...	Steam,	3	69,600	48,300	70,600	49
No. 2,				22	8.	6.	68	1.			4	70,300	57,300	71,600	101

*Idle.

Digitized by Google

Kingston Coal Co.															
Kingston No. 4 Colliery:															
No. 1,	Shaft,	Gaseous,	2 Fans,	25	8.	8.	70	2.2	Guibal,	Steam,	9	250,000	230,000	280,000	517
				25	8.	8.	74	2.2							
No. 4,	Shaft,	Gaseous,	2 Fans,	25	8.	8.	78	2.			8	160,000	130,000	190,000	464
				25	8.	8.	80	3.5							
Forty Fort Coal Co.															
Harry E. Colliery:															
No. 1,	Shaft,	Gaseous,	2 Fans,	25	8.	6.10	75	2.	Guibal,	Steam,	10	253,200	237,800	251,300	508
				15	4.6	4.6	75	1.							
Baby,	Tunnel,	Gaseous,	Fan,	13.4	3.8	3.2	85	1.			2	20,500	18,000	22,300	45
Forty Fort Colliery:															
No. 1,	Shaft,	Gaseous,	2 Fans,	20	7.	6.	99	1.8	Guibal,	Steam,	10	176,190	157,980	202,480	548
				20	7.	6.8	96	1.2							
Mt. Lookout Coal Co.															
Mt. Lookout Colliery:															
No. 1,	Shaft,	Gaseous,	2 Fans,	20	7.	6.10	83	1.5	Guibal,	Steam,	14	168,370	161,015	171,500	631
				20	6.8	5.4	82	1.6							
East Boston Coal Co.															
East Boston Colliery:															
No. 1,	Shaft,	Gaseous,	Fan,	25	7.	7.	90	1.4	Guibal,	Steam,	10	160,500	130,400	162,000	320
Plymouth Coal Co.															
Black Diamond Colliery:															
No. 1,	Shaft,	Gaseous,	Fan,	20	6.	6.6	90	1.9	Vulcan,	Steam,	8	125,000	75,000	130,000	270
Raub Coal Co.															
Louise Colliery:															
Mt. Thomas,	Tunnel,	Non-gas.,	Fan,	13	5.	5.	120	.8	Guibal,	Steam,	2	15,600	15,200	16,300	82
Nine Foot,	Slope,	Non-gas.,	Natural,	.....	.....	.....	.....	.....	.....	.....	....	14,300	13,500	14,700	15
Klondike,	Tunnel,	Non-gas.,	Natural,	.....	.....	.....	.....	.....	.....	.....	....	30,100	28,300	31,200	55
Ross,	Slope,	Non-gas.,	Natural,	.....	.....	.....	.....	.....	.....	.....	....	30,900	28,900	31,600	82
Sand,	Slope,	Non-gas.,	Natural,	.....	.....	.....	.....	.....	.....	.....	....	29,300	27,800	30,500	47
Delaware, Lackawanna and Western Railroad Co.															
Pettebone Colliery:															
No. 1,	Shaft,	Gaseous,	Fan,	22	6.2	6.	120	1.7	Dickson,	Steam,	10	121,000	158,300	207,450	272
No. 2,	Shaft,	Gaseous,	Fan,	35	10.1	9.1	52	2.3							
Rissinger Brothers and Co. Inc.															
Troy Colliery:															
No. 1,	Tunnel,	Non-gas.,	Fan,	7.6	3.6	3.3	220	.4	Buffalo,	Electricity,	2	13,300	14,000	14,500	70

Digitized by Google

TABLE 2.—Continued

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
East Boston Coal Co.													
East Boston,	Luzerne,	137,185	20,561	1,848	159,594	195	450	3	6	119,375	29,000	.....	87
East Boston Washery,	Luzerne,	16,686	10,000	9	26,695	252	23	.....	.....	.....	.....	.....	.....
Totals,		153,871	30,561	1,857	186,289	.....	473	3	6	119,375	29,000	.....	87
Plymouth Coal Co.													
Black Diamond,	Luzerne,	148,112	33,200	4,606	185,918	259	491	3	7	3,650	34,500	.....	56
Raub Coal Co.													
Louise,	Luzerne,	102,407	16,425	10,170	129,002	232	216	3	4	60,275	49,800	.....	37
Delaware, Lackawanna and Western Railroad Co.													
Pettebone,	Luzerne,	124,143	.....	4	124,147	282	312	.....	1	95,525	2,957	35,526	40
Rissinger Brothers and Co., Inc.													
Troy,	Luzerne,	35,697	3,000	2,124	40,821	289	103	1	1	11,450	35,500	.....	9
Grand totals,		3,480,093	446,901	35,659	4,012,652	.....	8,455	47	48	2,539,650	1,183,551	74,569	1,066

Digitized by Google

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers: Cylindrical	Horse power	Tubular	Horse power	Total horse power	Locomotives: Steam	Air	Electric	Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
Lehigh Valley Coal Co.,	Luzerne,	.....	.....	88	11,570	11,570	7	6	16	127	12,814	28	21,253	18,944	8	2
	Lackawanna,	.....	.....	15	4,200	4,200	1	.....	4	38	4,300	8	2,600	5,100	4	1
Kingston Coal Co.,		.....	.....	12	3,150	3,150	2	.....	.....	41	3,550	7	6,100	3,800	.....	.....
Forty Fort Coal Co.,		.....	.....	10	2,600	2,600	1	.....	9	29	2,100	3	6,750	2,800	3	3
Mt. Lookout Coal Co.,		.....	.....	11	2,272	2,272	.....	.....	.....	27	1,258	3	4,500	2,000	2	2
East Boston Coal Co.,		.....	.....	15	2,900	2,900	.....	.....	1	44	3,000	3	2,800	2,000	2	2
Plymouth Coal Co.,		.....	.....	7	1,200	1,200	2	.....	.....	29	1,670	3	1,000	600	.....	.....
Raub Coal Co.,	Luzerne,	.....	.....	10	1,850	1,850	1	.....	1	28	2,801	2	160	160	1	.....
Delaware, Lackawanna and Western Railroad Co.,		.....	.....	8	200	200	.....	.....	.....	5	125	2	60	20	.....	.....
Riesinger Brothers and Co., Inc.,		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals,		.....	.....	125	28,577	29,572	14	6	33	368	31,658	57	61,223	35,424	20	11

Digitized by Google

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 8	John Zarka, ...	Lithuanian,	Miner, ...	27	S.	....	....	Forty Fort, ...	Luzerne, ...	Instantly killed by fall of rock at face of chamber.
	Charles Makar, ...	American, ..	Miner, ...	38	S.	....	....	Stevens, ...		Instantly killed by fall of rock at face of chamber.
16	Anthony Zincavage, ..	Lithuanian,	Laborer, ...	35	S.	....	....	Seneca, ...		Instantly killed by fall of rock at face of chamber.
27	Alex Stermus, ...	German, ...	Laborer, ...	19	S.	....	....	Forty Fort, ...		Instantly killed by fall of rock at face of cross-heading.
28	Stanley Adamchick, ..	Polish,.....	Laborer, ...	21	S.	....	....	Kingston No. 4,		Fatally injured by mine cars on gangway.
31	Martin Gostinsky, ...	Polish,.....	Miner, ...	25	S.	....	....	Harry E., ...		Fatally injured by blast while tamping hole at face of airway.
	John Alamick, ...	Slavonian,..	Laborer, ...	27	M.	1	2	Harry E., ...		Fatally injured by blast while tamping hole at face of airway.
Feb. 6	Joseph Zerkavitch, ...	Lithuanian,	Miner, ...	27	S.	....	....	East Boston, ...		Instantly killed while handling dynamite on gangway.
23	John Velonobits, ...	Slavonian,..	Miner, ...	54	M.	1	6	Maltby, ...		Instantly killed by fall of slate at face of chamber.
March 1	Mike Sysko, ...	Polish,.....	Miner, ...	35	M.	1	2	Exeter, ...		Instantly killed by fall of rock at face of chamber.
3	Anthony Molly, ...	Austrian, ..	Laborer, ...	22	S.	....	....	Louise, ...		Fatally injured by cars on slope.
5	John Tressa, ...	Slavonian,..	Runner, ...	23	M.	1	2	Maltby, ...		Instantly killed by cars on slope.
10	Besrior Grigiri, ...	Italian, ...	Miner, ...	29	S.	....	....	Mt. Lookout, ...		Instantly killed by fall of rock at face of chamber.
13	Ralph Wolfe, ...	American, ..	Driver, ...	18	S.	....	....	Kingston No. 4,		Instantly killed by cars on gangway.
April 8	Clercia Shyosi, ...	Italian, ...	Miner, ...	33	M.	1	2	Black Diamond,		Fatally injured by premature blast. He is supposed to have shortened squib.
14	Frank Ritzo, ...	Italian, ...	Laborer, ...	35	S.	....	...	Seneca, ...		Fatally injured by cars on gangway at branch of chamber.
17	George Vulchick, ...	Horwat, ...	Laborer, ...	53	M.	1	3	Black Diamond,		Instantly killed by fall of rock at face of pillar.
May 15	Cornelius Conahan, ..	Irish, ...	Miner, ...	56	M.	1	3	East Boston, ...		Instantly killed by fall of rock at face of chamber.
16	Adam Pistolozzi, ...	Italian, ...	Miner, ...	44	M.	1	2	Forty Fort, ...		Fatally injured while tamping hole at face of chamber.
19	William Salus, ...	Lithuanian,	Miner, ...	32	M.	1	5	Exeter, ...		Instantly killed by fall of rock on gangway while making repairs.
20	Paul Yaruga, ...	Polish,.....	Laborer, ...	19	S	....	....	East Boston, ...		Fatally injured by fall of rock at face of chamber.
29	Stanley Kizyuifchi, ..	Polish,.....	Miner, ...	31	S.	....	....	Seneca, ...		Instantly killed at face of chamber while lighting a squib. He had shortened his squib before using it.

Digitized by Google

June	4	Paul Phillips, ...	Slavonian,..	Driver, ...	20	S.	....	....	Forty Fort, ...			Instantly killed by cars on gangway. He was riding on front end of car and fell under.
	11	Nick Parelle, ...	Italian, ...	Miner, ...	29	M.	1	1	Mt. Lookout, ...			Instantly killed by fall of slate at face of chamber.
	21	Patrick Farrington, ..	Irish, ...	Driver boss,.	48	W.	....	3	Forty Fort, ...			Fatally injured by cars on slope.
	24	John Clutchnick, ...	Polish,.....	Doorboy, ...	17	S.	....	....	Seneca, ...			Instantly killed by falling off carriage in shaft.
July	28	John Velitis, ...	Lithuanian,	Driver, ...	18	S.	....	....	Kingston No. 4,			Fatally injured by being kicked by mule he was driving along gangway road.
Aug.	11	Anthony Caryonis, ...	Lithuanian,	Miner, ...	42	M.	1	3	Harry E., ...			Fatally injured by being caught between mine car and door in chamber while assisting the driver.
	12	John Robbins, ...	American,..	Driver boss,.	40	M.	1	3	Louise, ...			Fatally injured while riding upon loaded trip of cars on slope.
	14	Mike Ross, ...	Italian, ...	Spragger, ...	28	M.	1	3	Exeter, ...			Fatally injured by cage at breaker hoist descending upon him. Outside.
	20	Thomas Jorjo, ...	Russian, ...	Miner, ...	54	M.	1	....	Kingston No. 4,			Fatally injured by blast near face of pillar.
	21	Stanley Semereskie, ..	Polish,.....	Miner, ...	26	S.	....	....	Westmoreland, ..			Instantly killed by fall of rock at face of chamber.
	25	John Gahuski, ...	Polish,.....	Miner, ...	28	M.	1	....	Black Diamond,			Fatally injured by blast while cleaning away fall on main road.
Sept.	4	Joseph Dompkowski, .	Polish,.....	Miner, ...	45	M.	1	3	Kingston No. 4,			Instantly killed by falling timber at face of chamber.
		Stanley Openkoski, ..	Russian, ...	Laborer, ...	23	S.	....	....	Troy, ...			Instantly killed by fall of rock at face of gangway.
	5	John Arthum, ...	Slavonian,..	Driver, ...	19	S.	....	....	Harry E., ...			Fatally injured by cars on gangway. While attempting to get on front end of loaded car he fell under.
	15	Joseph Potoski, ...	Polish,.....	Miner, ...	48	M.	1	5	Kingston No. 4,	Luzerne, ...		Instantly killed at face of chamber while firing hole. He had shortened the squib.
Oct.	2	George Yockup, ...	Slavonian,..	Miner, ...	53	M.	1	5	Louise, ...			Instantly killed by fall of rock near face of gangway.
	9	George Troy, ...	American,..	Miner, ...	38	M.	1	1	Westmoreland, ..			Fatally injured by fall of slate at face of chamber.
	13	Quintilo Quarci, ...	Italian, ...	Miner, ...	35	M.	1	2	Mt. Lookout, ...			Instantly killed at face of chamber by fall of rock while replacing prop dislodged by blast.
Nov.	7	August Desmoiden, ..	Lithuanian,	Miner, ...	45	M.	1	5	Seneca, ...			Fatally injured by cars jumping the track at branch at foot of tail rope haulage.
	24	William McGuinnes, .	Irish, ...	Miner, ...	47	M.	1	5	Mt. Lookout, ...			Fatally injured at face of chamber while charging a hole in coal.
	25	Anthony Mehalski, ...	Polish,.....	Miner, ...	37	M.	1	3	Seneca, ...			Instantly killed by fall of rock at face of chamber.
Dec.	6	Andrew Onavitch, ...	Slavonian,..	Miner, ...	45	M.	1	7	Kingston No. 4,			Instantly killed by fall of rock at the branch of chamber when car knocked prop out.
	12	Michael Walsh, ...	American,..	Pumpman, ..	47	M.	1	3	Mt. Lookout, ...			Instantly killed by fall of rock on gangway while riding on motor.
	15	John Wisnefskie, ...	Polish,.....	Switchman,	52	M.	1	3	Forty Fort, ...			Fatally injured by cars running away on slope.
	18	Zigmund Modlinsky, .	Polish,.....	Laborer, ...	22	S.	....	....	William A., ...	Lackawanna		Instantly killed by fall of rock at face of chamber.

Digitized by Google

CONDITION OF COLLIERIES

LEHIGH VALLEY COAL COMPANY

Exeter, Maltby, Seneca, Westmoreland and Stevens Collieries.—Ventilation, drainage and condition as to safety good. William A.—Ventilation and drainage good. Condition as to safety fair.

KINGSTON COAL COMPANY

Kingston No. 4 Colliery.—Ventilation, drainage and condition as to safety good.

FORTY FORT COAL COMPANY

Harry E. and Forty Fort Collieries.—Ventilation, drainage and condition as to safety good.

MT. LOOKOUT COAL COMPANY

Mt. Lookout Colliery.—Ventilation, drainage and condition as to safety good.

EAST BOSTON COAL COMPANY

East Boston Colliery.—Ventilation, drainage and condition as to safety good.

PLYMOUTH COAL COMPANY

Black Diamond Colliery.—Ventilation, drainage and condition as to safety good.

RAUB COAL COMPANY

Louise Colliery.—Ventilation, drainage and condition as to safety fair.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Pettebone Colliery.—Ventilation, drainage and condition as to safety good.

RISSINGER BROTHERS AND COMPANY, INCORPORATED

Troy Colliery.—Ventilation, drainage and condition as to safety good.

IMPROVEMENTS

LEHIGH VALLEY COAL COMPANY

Exeter Colliery.—Inside: A Flory engine was installed in a concrete and steel engine room on the North road in Red Ash vein. Silting was begun in the Red Ash and the fireproof mule barn was completed. Ten additional stalls were placed in the fireproof barn in the Checker vein.

Outside: Knight Shaft.—Built a concrete fan house and fan engine house and installed a 20-foot fan to replace the old one. Pittston Shaft.—Constructed a concrete floor and a corrugated iron roof to replace the old wooden ones. Added one 463 H. P. Sterling boiler to boiler plant.

Digitized by Google

Maltby Colliery.—Inside: A rock tunnel 130 feet long was driven from the Bottom Ross vein to the Red Ash vein in No. 5 slope workings. A 300 gallon triplex electric plunger pump was installed in No. 8 slope in a concrete pump room. Silting was commenced in the Six Foot vein.

Outside: Installed 9 Lehigh Valley four-foot jigs and rebuilt pockets in east side of breaker. Drilled a 12-inch bore hole to Marcy vein for silting purposes. Erected fireproof hospital, saw house and scale house. No. 2 fan shaft was concreted and No. 1 fan house made fireproof.

Seneca Colliery.—Inside: Installed one 500-gallon triplex electric pump in Clark vein, one 16½ by 26 by 36 inch Duplex Jeanesville pump in No. 5 slope, Marcy vein, and a simple pump in the same pump room was compounded. Both pumps are equipped with condensers. Drilled a 17-inch bore hole from surface to Marcy vein. 160 diamond drill test holes were put down to ascertain the rock cover over the Pittston, Marcy and Red Ash veins.

Outside: Built hospital and locomotive house of brick and tile west of breaker.

William A. Colliery.—Inside: Built a medical room of concrete at No. 10 tunnel and completed an additional air shaft from surface to Marcy vein at this opening.

Outside: Built head frame over the tender shaft, and placed new cribbing in Babylon air shaft. Foreman's office was converted into a hospital. A new office is being constructed. Built tile and concrete locomotive house at No. 10 tunnel.

Westmoreland Colliery.—Inside: Installed a 150-gallon horizontal triplex electric pump in the Pittston vein.

Outside: Built hospital of hollow tile. Made roof of boiler house fireproof. Two diamond drill holes were put down to the Pittston vein from the surface and extensive repairs were made to the breaker.

KINGSTON COAL COMPANY

Kingston No. 4 Colliery.—Outside: Installed a double intake 8 by 25 foot ventilating fan at No. 4 shaft, driven by 18 by 30 inch direct connected Corliss engine. The fan house and approach to the shaft are made of concrete and steel. The Bennett and Orchard fan engines at No. 2 bore hole were equipped with new 18 by 20 inch Corliss valve engines. Completed 12-inch concrete steel partition in the airway compartment of No. 4 shaft, from the Red Ash to the Bennett vein, and the old brattice in that section was removed. Drilled an eight-inch bore hole from surface to Bennett vein, 330 feet, for pumping purposes. No. 4 breaker engine was replaced by a cross compound Lentz engine, 19½ inch high pressure and 32½ inch low pressure cylinders and a 21 inch stroke. This engine is of the poppet valve type. No elastic or metallic packing is used; the valve stems are kept steam tight by means of the labyrinth system of water seal packing. Made two additions 22 by 68 feet to the wash house, which is now equipped with 6 shower baths, 12 wash stands, 36 concrete wash tubs and 435 lockers. Constructed a new warehouse 30 by 80 feet, with brick walls and concrete floor and roof. Completed fireproof building 30 by 68 feet for electrical department. Concrete fuel bins and a new concrete ash pit were made in the boiler room. The old warehouse has been remodeled so as to allow

Digitized by Google

one room for keeping Wolfe safety lamps and electric hand lamps and the other for storing the mine rescue apparatus. This room serves as a First Aid Hospital, complete with operating table, surgical appliances, et cetera.

FORTY FORT COAL COMPANY

Harry E. Colliery.—Inside: Installed a pumping station in the Six Foot vein. Drilled two bore holes for the purpose of furnishing steam to the pumps and discharging the mine water. A 400-gallon motor driven Alberger turbine pump and a 200 gallon Aldrich triplex electrical pump were installed in the Six Foot vein. 10,000 feet of 1/0 copper wire were installed to transmit power for the operation of these pumps.

Installed a 7-ton Morgan-Gardner electric locomotive and a 6-foot Morgan-Gardner coal cutting machine; also a 200 K. W. Westinghouse induction motor generator set in a fireproof building, 15 by 15 feet, transforming 440 volt alternating current to 250 volt direct current.

Installed a pair of 10 by 12 inch Flory engines to operate No. 2 slope, Top Ross vein.

Outside: Built a 12 by 12 foot brick addition to the transformer station to accommodate additional transformers; also a 12 by 12 by 18 foot brick building at the breaker for a transformer station to furnish power for the Six Foot slope.

Forty Fort Colliery.—Inside: Drove a 6 by 8 foot second opening and manway 105 feet from the Top Ross to the Bottom Ross vein, on an angle of 45 degrees. Installed a pair of 10 by 12 foot Flory engines on the rock slope to drop coal from the Top Ross vein to the Bottom Ross vein; also a pair of 14 by 18 foot Flory engines in the Six Foot vein to operate No. 2 slope in the Eleven Foot vein by running a rope down a borehole.

Outside: Built an addition 8 feet 6 inches by 52 feet to the boiler house and added one 500 H. P. Sterling boiler to the plant. Extensive breaker repairs and improvements were also made.

MT. LOOKOUT COAL COMPANY

Mt. Lookout Colliery.—Inside: Installed a 28-A Jeffrey 6 foot coal undercutting machine and constructed a fireproof air bridge in No. 9 slope.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Pettebone Colliery.—Inside: Completed sinking a rock slope from the Bennett vein to the Red Ash vein. The work of sinking a slope from the Cooper to the Red Ash vein, on the south side of No. 1 shaft, is underway. Preparations are being made for second openings by tunnels from the various seams cut by No. 12 slope from the Bennett vein to the Red Ash vein.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in Pittston, April 22 and 23. The Board of Examiners was composed

Digitized by Google

of S. J. Jennings, Mine Inspector, Pittston; James J. McCarty, Superintendent, Luzerne; Harry Jones, Miner, Wyoming; Edward Carlin, Miner, Luzerne.

The following applicants passed a satisfactory examination and were granted certificates:

MINE FOREMEN

Robert Thomas, Philip Williams, William Coutts, David Coutts, Forty Fort; Mearl W. Evans, Dorranceton; William S. Siley, West Pittston; Howard G. Shulde, Charles W. Thomas, Wyoming.

ASSISTANT MINE FOREMEN

Matthew J. Carlin, Malachi Glennon, Patrick J. Lavin, Michael Boland, Luzerne; Edward Guilford, Edward J. Ruane, West Pittston; John McDonnell, Richard K. Jones, Kingston; George W. Hutchinson, Archibald K. Lindsay, Forty Fort; George W. Brown, Duryea; Samuel G. Booth, Jr., Wyoming; Mordecai Jones, Edwardsville; William Jones, Dorranceton; Bernard McEnaney, Exeter, Daniel McGahagan, West Wyoming.

Digitized by Google

Digitized by Google

NINTH DISTRICT

LUZERNE COUNTY

Wilkes-Barre, Pa., February 14, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit herewith my annual report as Inspector of Mines for the Ninth Anthracite District, for the year ending December 31, 1913.

Respectfully submitted,

D. T. DAVIS, Inspector.

Digitized by Google

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Lehigh and Wilkes-Barre Coal Co.,	9	.....	9	15	2	17	171,728	108,031	1,953	555	2,508	217	.....	130	278
Delaware and Hudson Co.,	4	2	6	8	2	10	305,613	152,807	1,765	642	2,407	441	321	221	221
Delaware, Lackawanna and Western Railroad Co.,	14	1	15	5	.....	5	82,473	230,926	1,898	377	2,275	136	377	379	.....
Kingston Coal Co.,	5	.....	5	4	1	5	220,502	275,628	1,560	485	2,045	312	.....	390	485
Plymouth Coal Co.,	.....	.....	.....	5	.....	5	.....	31,255	248	127	375	.....	.....	50	.....
George F. Lee Coal Co.,	1	.....	1	1	.....	1	111,905	111,906	187	63	250	187	.....	63	.....
Bright Coal Co.,	.....	.....	.....	1	.....	1	.....	19,987	23	23	46	.....	.....	23	.....
Miscellaneous Companies,	.....	.....	.....	.....	.....	.....	.....	.....	93	20	113	.....	.....	.....	.....
Totals and averages for district,	**33**	**3**	**36**	**39**	**5**	**44**	**162,097**	**137,159**	**7,727**	**2,292**	**10,019**	**234**	**764**	**192**	**458**

Digitized by Google

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentage
Causes of Accidents Inside														
Falls of coal,	1	4	....	1	....	1	2	....	....	....	....	....	9	27.27
Falls of roof,	1	....	1	2	1	....	....	2	1	2	....	....	10	30.31
Explosions of gas,	....	....	....	2	....	....	....	....	....	....	....	....	2	6.06
Suffocation by gas, etc.,	....	....	....	4	....	....	....	....	....	....	....	....	4	12.12
Blasts, premature and otherwise,	....	....	1	....	2	1	....	....	....	....	1	....	5	15.15
Falling into shafts,	....	....	....	....	....	....	....	....	1	....	....	....	1	3.03
Mules,	....	....	....	....	....	....	....	....	1	....	....	....	1	3.03
Machinery,	....	....	....	....	....	....	....	....	1	....	....	....	1	3.03
Totals,	2	4	2	9	3	2	2	2	4	2	1	....	33	100.00
Causes of Accidents Outside														
Cars,	....	....	....	1	....	....	....	....	....	....	....	....	1	33.33
Machinery,	....	....	....	....	....	....	....	....	....	....	1	....	1	33.33
Burned by hot ashes,	....	....	....	....	1	....	....	....	....	....	....	....	1	33.34
Totals,	....	....	....	1	1	....	....	....	....	....	1	....	3	100.00
Grand totals inside and outside,	2	4	2	10	4	2	2	2	4	2	2	....	36	.....

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentage
Causes of Accidents Inside														
Falls of coal,	....	....	....	....	1	....	....	1	2	1	....	....	5	12.82
Falls of slate,	....	....	....	....	....	....	....	....	....	....	....	1	1	2.57
Falls of roof,	1	....	1	....	....	....	1	2	....	3	2	2	12	30.77
Mine cars,	....	....	....	....	2	1	....	1	....	3	1	1	9	23.08
Explosions of gas,	....	....	....	2	....	....	....	....	....	....	....	....	2	5.13
Blasts, premature and otherwise,	....	1	....	....	1	....	....	....	....	....	1	....	3	7.69
Struck by cage,	....	....	....	....	....	....	....	....	....	....	....	1	1	2.56
Struck by piece of rock,	....	....	....	....	....	....	2	....	....	....	....	....	2	5.13
By falling,	....	....	....	1	....	....	....	....	....	....	....	....	1	2.56
Struck by timber,	1	....	....	1	....	....	....	....	....	....	....	....	2	5.13
Scalded by steam,	1	....	....	....	....	....	....	....	....	....	....	....	1	2.56
Totals,	3	1	1	4	4	1	3	4	2	7	4	5	39	100.00
Causes of Accidents Outside														
Machinery,	....	1	....	....	....	....	....	1	....	....	....	....	2	40.00
Mules,	....	....	....	....	....	....	....	1	....	....	....	....	1	20.00
By falling,	....	....	....	1	....	....	1	....	....	....	....	....	2	40.00
Totals,	....	1	....	1	....	....	1	2	....	....	....	....	5	100.00
Grand totals inside and outside,	3	2	1	5	4	1	4	6	2	7	4	5	44	.....

Digitized by Google

TABLE I.—Continued

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Area of furnace bars in square feet	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
George F. Lee Coal Co. Chauncey Colliery:																
Chauncey,	Slope, Slope, Slope, Slope, Drift, . Drift, .	Non-gas., .	Natural, ..	.....	.....	.....	.....	.....	.....	.....	..	4	62,000	52,500	69,000	163
West Nanticoke Coal Co. West Nanticoke Colliery:																
West Nanticoke No. 1 (Red Ash),	Slope, ..	Non-gas., .	Natural, ..	.....	.....	.....	.....	.....	.....	.....	..	..	29,150	20,000	30,600	45
West Nanticoke No. 1 (Red Ash),	Tunnel,												15,400	10,000	16,280	8
West Nanticoke No. 1 (Red Ash),	Drift, ...												7,800	5,000	8,320	2
West Nanticoke No. 2 (Red Ash),	Drift, ..												12,320	9,000	13,870	16
West Nanticoke No. 3, (Red Ash),	Drift, ...												12,600	9,000	14,500	11
West Nanticoke No. 4 (Red Ash),	Drift, ...												10,890	10,000	12,600	2
West Nanticoke No. 1 (Rose),	Drift, ...												9,350	8,000	10,080	6
West Nanticoke No. 2 (Rose),	Drift, ...												8,000	7,000	9,600	2

Digitized by Google

Bright Coal Co.																	
Hillside Colliery:																	
Hillside,	Slope,	Non-gas.,	Fan,	10	4	2.7	85	2	Gulbal,	Steam,	..	1	44,000	44,000	48,000	23

Digitized by Google

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Lehigh and Wilkes-Barre Coal Co.						
Nottingham No. 15, Lance No. 11, Parrish No. 23, Buttonwood No. 22,* Inman No. 21,†	Luzerne, ...	C. F. Huber, General Manager,	Wilkes-Barre, ...	E. J. Newbaker, ...	Wilkes-Barre, ...	C. R. R. of N. J.
Washeries Buttonwood, Parrish,	Luzerne, ...	C. F. Huber, General Manager,	Wilkes-Barre, ...	E. J. Newbaker, ...	Wilkes-Barre, ...	C. R. R. of N. J.
Delaware and Hudson Co. Plymouth Nos. 2, 3 and 5, ...	Luzerne, ...	C. C. Rose, ...	Scranton, ...	E. R. Pettebone, ...	Dorranceton, ...	D. and H.
Washeries Plymouth Nos. 2, 3 and 5, ...	Luzerne, ...	C. C. Rose, ...	Scranton, ...	E. R. Pettebone, ...	Dorranceton, ...	D. and H.
Delaware, Lackawanna and Western Railroad Co.						
Woodward, Avondale, Loomis,	Luzerne, ...	C. E. Tobey, ...	Scranton, ...	H. G. Davis, ...	Kingston, ...	D. L. and W.
Kingston Coal Co.						
Kingston No. 2, Gaylord, Gaylord Washery,	Luzerne, ...	F. E. Zerbey, ...	Kingston, ...	Thomas H. Williams R. A. Smith, ... R. A. Smith, ...	Kingston, ... Plymouth, ... Plymouth, ...	D. and H., D. L. and W. and L. V. D. L. and W. and D. and H. D. L. and W. and D. and H.
Plymouth Coal Co. Dodson, ...	Luzerne, ...	Gilbert S. Jones, ...	Dorranceton, ...	.....	.....	D. L. and W.
George F. Lee Coal Co. Chauncey, ...	Luzerne, ...	George F. Lee, ...	Wilkes-Barre, ...	.....	.....	D. L. and W.
West Nanticoke Coal Co. West Nanticoke, ...	Luzerne, ...	A. D. W. Smith, ...	Wilkes-Barre, ...	E. W. Davies, ...	Dorranceton, ...	Pennsylvania
Bright Coal Co. Hillside, ...	Luzerne, ...	David Spruks, ...	Scranton, ...	Jonathan Vipond, ...	Scranton, ...	D. and H.

*Idle.
†New mine.

Digitized by Google

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives: Number of pounds of powder used	Explosives: Number of pounds of dynamite used	Explosives: Number of pounds of permissible explosives used	Number of horses and mules
Lehigh and Wilkes-Barre Coal Co.													
Nottingham No. 15,	Luzerne,	715,430	65,414	15,075	795,919	241	1,138	7	10	379,350	8,050	750	170
Lance No. 11,		339,974	51,398	2,930	380,302	202	725	1	4	279,150	4,500	28,300	110
Parrish No. 23,		164,201	27,403	2,082	193,686	242	431	1	1	73,625	88	41,850	67
Buttonwood No. 22,		.....	.....	.....	.....	.....	156	.....	1	.....	.....	.....	28
Inman No. 21,		.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
		1,219,605	130,215	20,087	1,369,907	.....	2,451	9	17	732,125	12,638	70,900	385
Washeries													
Buttonwood,	Luzerne,	78,821	32,034	7,086	117,941	248	30	.....	.....	.....	.....	.....	.....
Parrish,		22,362	27,041	8,209	57,612	291	24	.....	.....	.....	.....	.....	.....
		101,183	59,075	15,295	175,553	.....	54	.....	.....	.....	.....	.....	.....
Totals,		1,320,788	189,290	35,382	1,545,460	.....	2,508	9	17	732,125	12,638	70,900	385
Delaware and Hudson Co.													
Plymouth No. 3,	Luzerne,	479,708	1,519	5,543	486,770	272	846	4	6	211,075	6,152	.....	92
Plymouth No. 5,		414,430	2,027	5,478	421,935	235	1,007	1	1	247,325	4,172	.....	122
Plymouth No. 2,		181,504	31,635	.....	213,139	173	554	1	3	169,350	5,892	.....	62
		1,075,642	35,181	11,021	1,121,844	.....	2,407	6	10	627,750	16,216	.....	276

Digitized by Google

TABLE 2.—Part 2

Name of Operators	County	Number of Boilers: Cylindrical	Number of Boilers: Horse power	Number of Boilers: Tubular	Number of Boilers: Horse power	Number of Boilers: Total horse power	Locomotives: Steam	Locomotives: Air	Locomotives: Electric	Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
Lehigh and Wilkes-Barre Coal Co.,	Luzerne,	54	1,458	51	9,625	9,625	3	6	.....	187	17,607	13	11,719	7,648	.....	13
Delaware and Hudson Co.,		.....	.....	27	7,000	8,458	.....	.....	.....	218	8,686	10	14,900	4,150	2	5
Delaware, Lackawanna and Western Rail-road Co.,		.....	.....	24	4,830	4,830	3	.....	22	70	11,842	13	18,030	8,282	6	8
Kingston Coal Co.,		.....	.....	13	3,450	3,450	7	.....	6	42	4,750	3	10,500	2,200	1	1
Plymouth Coal Co.,		.....	.....	11	1,650	2,650	.....	.....	.....	18	2,650	6	3,500	3,500	1	4
George F. Lee Coal Co.,		.....	.....	5	310	310	.....	.....	.....	5	280	.....	.....	.....	4	.....
West Nanticoke Coal Co.,		.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bright Coal Co.,		3	285	.....	.....	285	.....	.....	.....	6	340	2	250	62	.....	.....
Totals,		60	2,693	131	26,765	29,458	14	6	28	546	46,144	46	58,949	25,832	14	26

Digitized by Google

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside											Outside								Grand total inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	
Lehigh and Wilkes-Barre Coal Co.,	Luzerne,	5	5	24	636	464	207	83	25	504	....	1,953	..	4	25	113	131	21	13	248	555	2,508
Delaware and Hudson Co.,		4	5	15	532	582	241	52	17	275	42	1,765	..	5	23	120	71	109	3	311	642	2,407
Delaware, Lackawanna and Western Railroad Co.,		6	3	19	587	594	164	66	26	282	151	1,898	..	4	36	61	45	....	5	226	377	2,275
Kingston Coal Co.,		5	14	5	573	484	202	23	3	126	125	1,560	2	3	56	38	3	51	7	325	485	2,045
Plymouth Coal Co.,		1	1	4	55	70	30	16	8	43	20	248	1	1	7	25	25	7	2	59	127	375
George F. Lee Coal Co.,		1	1	1	66	70	12	8	....	28	....	187	..	1	4	4	23	....	4	27	63	250
West Nanticoke Coal Coal Co.,		1	....	1	37	45	8	....	....	.....	1	93	..	..	1	3	3	4	1	8	20	113
Bright Coal Co.,		1	....	....	10	6	2	....	1	1	2	23	1	1	1	4	8	....	1	7	23	46
Totals,		24	29	69	2,496	2,315	866	248	80	1,259	341	7,727	4	19	153	368	309	192	36	1,211	2,292	10,019

Digitized by Google

TABLE 4.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Aug. 25	John Gush, ...	Slavonian, ..	Company man	22	S.	....	....	Nottingham No. 15,..	Luzerne, ..	Killed by fall of roof on airway.
26	Joseph Zaconis, ...	Polish,.....	Laborer, ...	29	S.	....	....	Parrish, ...		Killed by fall of roof on gangway.
Sept. 13	Anthony Gibbons, ...	Lithuanian,	Miner, ...	34	M.	1	4	Kingston No. 2, ...		Fatally injured by fall of roof at face of chamber.
	Ralph Worman, ...	American, ..	Company man	21	S.	....	....	Nottingham No. 15,..		Fatally injured by being dragged by mule on slope.
16	David Phillips, ...	American, ..	Engineer, ...	26	S.	....	....	Woodward, ...		Killed while working at his engine on slope. His body was found lying across the shaft of his engine.
30	Constanti Camburoski,	Russian, ...	Laborer, ...	25	S.	....	....	Woodward, ...		Killed by falling off cage into shaft.
Oct. 4	George Eln, ...	Polish,.....	Laborer, ...	37	M.	1	2	Woodward, ...		Fatally injured by fall of roof at face of chamber.
18	Joseph Drinko, ...	Slavonian, ..	Laborer, ...	32	M.	1	2	Kingston No. 2, ...		Fatally injured by fall of roof at face of chamber.
Nov. 7	George Kline, ...	German, ...	Slate man, ..	61	M.	1	...	Avondale, ...		Killed by machinery in breaker. Outside.
20	Thomas Drabick, ...	Slavonian, ..	Miner, ...	40	M.	1	4	Chauncey, ...		Killed by premature blast at face of chamber.

Digitized by Google

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 1	Humphrey Humphreys	Welsh,	Miner,	33	M.	Dodson,		Scalded by steam on gangway.
6	Thomas Clark,	English,	Company man,	30	M.	Nottingham No. 15,		Wrist fractured by timber falling on him on gangway.
27	John Slowgas,	Lithuanian,	Laborer,	22	S.	Lance No. 11,		Arm fractured by fall of roof at face of chamber.
Feb. 14	George Johns,	American,	Laborer,	21	S.	Nottingham No. 15,		Seriously injured by explosion of blast at face of chamber.
28	John Chopick,	Polish,	Slatepicker,	17	S.	Kingston No. 2,		Leg fractured by machinery. Outside.
March 6	John Lloyd,	Welsh,	Miner,	26	S.	Nottingham No. 15,		Leg fractured by fall of roof at face of chamber.
April 6	John Shefcow,	Lithuanian,	Laborer,	41	M.	Nottingham No. 15,		Leg fractured by falling while unloading timber. Outside.
10	Wadeck Cekanis,	Lithuanian,	Miner,	33	M.	Nottingham No. 15,		Leg fractured by timber falling on him in chamber.
12	August Kronjack,	Slavonian,	Laborer,	45	M.	Woodward,		Seriously burned by explosion of gas in old workings.
16	Michael Dopko,	Polish,	Laborer,	30	S.	Nottingham No. 15,	Luzerne,	Seriously burned by explosion of gas on gangway.
26	Michael Carell,	Irish,	Miner,	55	S.	Avondale,		Ribs fractured by falling in chamber.
May 2	Joseph Sabloski,	Polish,	Laborer,	24	M.	Gaylord,		Leg fractured by cars at foot of slope.
17	Anthony Matscavage,	Polish,	Company man,	36	M.	Kingston No. 2,		Ribs fractured by cars on slope.
22	John Brositus,	Polish,	Laborer,	22	S.	Lance No. 11,		Slightly injured by fall of coal at face of chamber.
26	John Masuska,	Polish,	Laborer,	18	S.	Woodward,		Arms fractured by blast in cross cut.
June 23	Leo Shebloski,	American,	Driver,	21	S.	Plymouth No. 2,		Arm fractured by cars in chamber.
July 8	Robert Jones,	Welsh,	Miner,	33	M.	Woodward,		Back broken by fall of roof at face of airway.
16	Petez Zagaski,	Polish,	Miner,	48	M.	Nottingham No. 15,		Seriously injured by being struck by piece of rock in chamber.
	Andrew Hollor,	Polish,	Laborer,	51	S.			
23	Charles Coyle,	American,	Carpenter,	30	S.	Plymouth No. 3,		Arm fractured by falling. Outside.
Aug. 4	Anthony Rosenski,	Lithuanian,	Laborer,	22	S.	Lance No. 11,		Arm fractured by machinery in breaker. Outside.
9	Steve Jesneski,	Polish,	Miner,	44	M.	Plymouth No. 3,		Leg fractured by cars in chamber.
12	John Consavage,	Lithuanian,	Laborer,	23	S.	Nottingham No. 15,		Arm and foot crushed by fall of roof in chamber.

Digitized by Google

GEORGE F. LEE COAL COMPANY

Chauncey Colliery.—Safety conditions, ventilation and drainage good.

WEST NANTICOKE COAL COMPANY

West Nanticoke Colliery.—Safety conditions, ventilation and drainage good.

BRIGHT COAL COMPANY

Hillside Colliery.—Safety conditions, ventilation and drainage good.

IMPROVEMENTS

LEHIGH AND WILKES-BARRE COAL COMPANY

Nottingham No. 15 Colliery.—Inside: Completed remodeling of pumping plants on No. 1 slope.

Lance No. 11 Colliery:—Inside: Completed concreting of shaft walls and installed fire doors at top of hoisting shaft.

Outside:—Completed power house.

Buttonwood No. 22 Colliery.—Completed No. 1 tunnel from Stanton to Baltimore vein; also tunnels from Hillman to No. 1 tunnel and No. 1 tunnel to Stanton, for haulage. Completed concrete walls at top of hoisting shaft.

Inman No. 21 Colliery.—Inside: Completed tunnels on both sides of Baltimore shaft to Hillman vein for landing.

DELAWARE AND HUDSON COMPANY

Plymouth No. 3 Colliery.—Completed outlet of G or Stanton vein to Plymouth No. 3 shaft, 7 by 12 by 80 feet, on 14 degree pitch.

Completed tunnel 7 by 12 by 280 feet, light car road, to G or Stanton vein; tunnel, 7 by 12 by 320 feet, light car road, to Cooper vein; plane, 7 by 12 by 60 feet, on 18 degree pitch, for car haul; also car haul, 60 feet, on 18 degree pitch.

Plymouth No. 5 Colliery.—Completed tunnel 7 by 12 by 400 feet, G or Stanton vein, to Plymouth No. 5 shaft; also tunnel 7 by 12 by 90 feet, G or Stanton vein, through fault.

Concreted car haul, G or Stanton vein, 145 feet on 8 degree pitch.

Installed electric hoist on No. 2 plane, Cooper vein, operated by Flory 150 H. P. engine.

Installed 16 by 20 inch Flory steam hoist engine to operate No. 13 plane in Red Ash, in Boston section.

Completed pump room in Red Ash vein 11 by 18 by 38 feet, of concrete and steel; also bore hole, 16 inches by 325 feet, Red Ash vein to surface for pumping.

Plymouth No. 2 Colliery.—Completed air return and outlet from Snake Island to surface 7 by 16 by 170 feet long; air return Abbott to Snake Island 7 by 12 by 130 feet on 35 degree pitch; air return Lance to Abbott 7 by 12 by 130 feet on 30 degree pitch; also tunnel 7 by 12 by 300 feet G or Stanton vein to Plymouth No. 2 shaft.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Woodard Colliery.—Are installing a 20-foot multi-blade ventilating fan on No. 2 shaft, a duplicate of the one installed in 1912.

Driving rock tunnels from Cooper to Lance vein for development and ventilation.

Avondale Colliery.—The work of reopening this colliery after the squeeze of 1910 is not yet completed. The major portion of the workings in which there is virgin coal is in fairly good condition. The Ross vein section, No. 5 slope, is still under water. A large centrifugal electrically operated pump will be installed to remove the water and the mining of coal will be continued.

Loomis Colliery.—The work of development at this colliery is under way; the coal is being shipped for preparation to the Bliss colliery. Installed shaft hoisting engine and steel shaft head frame. The foot of the shaft openings in the Hillman vein is being equipped with concrete side walls and I beams, and single passageways for persons to travel from waiting rooms to foot of shafts when about to be hoisted to the surface. All the work is of a very substantial and permanent character.

The buildings on the surface are of concrete and brick construction.

A 20-foot multi-blade fan is being installed.

The work of widening out the old Dundee shaft to the Mills vein will soon be started. It is also proposed to sink a four compartment shaft from the surface to the Hillman vein, a short distance south of Butzbach's landing, the coal from which will be prepared at the Loomis breaker now under construction. This breaker will have many unique features. It will be constructed of reinforced concrete from the surface to the pocket lines; the rest of the building will be of steel and wired glass. It is intended to make it as nearly fireproof as possible. It is also to be a very large producer. 6,000 tons of coal per 9 hour day will be shipped to market. The company has a large undeveloped territory of coal surrounding these openings. The boiler plant and other equipment will all be of the latest design.

KINGSTON COAL COMPANY

Kingston No. 2 Colliery.—Completed a 12-inch concrete, reinforced steel partition from the Ross vein to the Orchard vein close to the surface and the old wooden brattice was removed from No. 3 shaft.

Installed an 8 by 25 foot double intake fan at the Old slope, driven by 18 by 30 inch direct connected Corliss engine, all encased in concrete, reinforced steel building and connected by concrete upcast to the fanway at the outcrop of the Eleven Foot vein.

Built an addition 22 by 68 feet to the miners' wash house at No. 2 shaft. The wash house is now equipped with six showers, a battery of twelve wash stands, twenty-eight tubs and two hundred and eighty-eight lockers.

Completed a pump discharge bore hole, 315 feet deep, from the surface to the Checker vein No. 3 shaft, dispensing with the cast iron culm line in the shaft.

Completed the addition to the boiler plant at No. 2 and installed 300 H. P. B. and W. boilers; also transferred from the washery and installed at No. 2 300 H. P. B. and W. boilers.

The boiler house is covered by steel truss galvanized iron roof and Pond steel continuous sash ventilator frames.

Gaylord Colliery.—The pump and boiler at the river for supplying wash water were replaced by an Aldrich vertical triplex pump 11 by 12 inches, with a 50 H. P. A. C. electric motor.

Digitized by Google

The miners wash house has been doubled in size, equipped with five shower baths, battery of twelve wash stands, twenty-four concrete tubs and 246 metallic lockers.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in the Willow Street School, Plymouth, April 22 and 23. The Board of Examiners was composed of David T. Davis, Mine Inspector, Wilkes-Barre; H. G. Davis, Superintendent, Kingston; Simon Carpenter, Miner, Plymouth; James Addis, Miner, Edwardsville.

The following persons passed a satisfactory examination and were granted certificates:

MINE FOREMEN

Edward P. Davis, Edwardsville; John L. Picton, Alfred E. Roberts, Thomas Baggatt, Plymouth.

ASSISTANT MINE FOREMEN

Samuel Bird, Frank Coggins, William L. Davis, Humphrey Humphrey, Llewelyn Jones, Patrick Mangan, Howard Rowlands, Edward Webber, Plymouth; Elijah Dobson, Chauncey; John T. Morgan, Evan L. Price, Samuel Richards, Daniel T. Williams, Edwardsville; Fred G. Williams, Kingston.

Digitized by Google

TENTH DISTRICT

LUZERNE COUNTY

Nanticoke, Pa., February 20, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit herewith my annual report as Inspector of Mines for the Tenth Anthracite District, for the year ending December 31, 1913, as required by law.

Respectfully submitted,

JOSEPH J. WALSH, Inspector.

Digitized by Google

SUMMARY OF STATISTICS

Number of collieries,	1
Number of mines,	5
Number of mines in operation,	5
Number of tons of coal shipped to market,	4,596,06
Number of tons used at mines for steam and heat,	393,76
Number of tons sold to local trade and used by employes,	56,60
Number of tons produced,	5,046,43
Number of tons produced by compressed air machines,	...
Number of tons produced by electrical machines,	...
Number of persons employed inside of mines,	7,65
Number of persons employed outside,	2,35
Number of fatal accidents inside of mines,	3
Number of fatal accidents outside,	1
Number of non-fatal accidents inside of mines,	4
Number of non-fatal accidents outside,	1
Number of tons of coal produced per fatal accident inside,	168,21
Number of tons produced per fatal accident outside,	2,523,21
Number of tons produced per fatal accident inside and outside,	157,70
Number of persons employed per fatal accident inside,	25
Number of persons employed per fatal accident outside,	1,17
Number of persons employed per fatal accident inside and outside,	31
Number of persons employed per non-fatal accident inside,	17
Number of persons employed per non-fatal accident outside,	78
Number of persons employed per non-fatal accident inside and outside,	21
Number of wives made widows,	1
Number of children made orphans,	5
Number of steam locomotives used inside of mines,	1
Number of steam locomotives used outside,	2
Number of compressed air locomotives used inside,	1
Number of compressed air locomotives used outside,	...
Number of electric motors used inside,	7
Number of electric motors used outside,	7
Number of fans in use,	4
Number of furnaces in use,	...
Number of gaseous mines in operation,	3
Number of non-gaseous mines in operation,	1
Number of new mines opened,	5
Number of old mines abandoned,	5

Digitized by Google

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Delaware, Lackawanna and Western Railroad Company,	1,830,512
Susquehanna Coal Company,	1,679,217
West End Coal Company,	631,255
Lehigh and Wilkes-Barre Coal Company,	556,872
Alden Coal Company,	301,488
E. S. Stackhouse Coal Company,	47,091
Total,	5,046,435

Production by Counties

Luzerne,	5,046,435

Digitized by Google

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	1	1	....	1	1	1	1	1	1	....	....	2	[illegible]
Miners' laborers,	1	....	....	1	....	3	2	....	1	1	....	2	[illegible]
Drivers and runners,	....	....	....	....	....	....	....	1	....	....	....	....	[illegible]
Footmen,	....	....	1	....	....	1	....	....	....	....	1	....	[illegible]
Masons,	....	....	....	....	....	....	1	....	....	....	....	....	[illegible]
Brakemen,	....	....	....	....	....	....	....	....	1	....	....	....	[illegible]
Shaftmen,	....	....	....	....	....	....	....	....	....	....	2	....	[illegible]
Motormen,	....	....	....	....	....	....	....	....	....	....	....	1	[illegible]
Totals,	2	1	1	2	1	5	4	2	3	1	3	5	[illegible]
Outside													
Electricians,	....	1	....	....	....	....	....	....	....	....	....	....	[illegible]
Chute tenders,	....	....	....	....	....	....	....	....	....	1	....	....	[illegible]
Totals,	....	1	....	....	....	....	....	....	....	1	....	....	[illegible]
Grand totals inside and outside,	2	2	1	2	1	5	4	2	3	2	3	5	[illegible]

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Fire bosses and assistants,	4	....	....	....	....	....	....	....	....	....	....	....	[illegible]
Miners,	2	....	1	3	1	1	4	....	1	1	....	2	[illegible]
Miners' laborers,	1	1	2	1	1	....	1	1	2	....	1	3	[illegible]
Drivers and runners,	1	....	....	....	....	....	....	....	....	....	....	....	[illegible]
Pumpmen,	1	....	....	....	....	....	....	....	....	....	....	....	[illegible]
Brattiemen,	....	....	....	....	1	....	....	....	....	....	....	....	[illegible]
Footmen,	....	....	1	1	....	....	....	....	....	....	1	....	[illegible]
Totals,	9	1	4	5	3	1	5	1	4	1	2	7	[illegible]
Outside													
Chute tenders,	....	....	....	1	....	....	....	....	....	....	....	....	[illegible]
Company men,	....	....	....	....	....	....	....	....	....	....	1	....	[illegible]
Laborers,	....	....	....	....	....	....	....	....	....	....	....	1	[illegible]
Totals,	....	....	....	1	....	....	....	....	....	....	1	1	[illegible]
Grand totals inside and outside,	9	1	4	6	3	1	5	1	4	1	3	8	[illegible]

Digitized by Google

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	....	1	1	....	....	2	....	....	1	....	1	....	6
English,	....	....	....	....	....	....	....	....	....	1	....	....	1
Welsh,	....	....	....	....	....	1	1	....	....	....	....	....	2
German,	....	....	....	....	....	....	....	....	1	....	2	....	3
Polish,	2	....	....	2	1	1	3	2	....	1	....	2	14
Slavonian,	....	1	....	....	....	....	....	....	....	....	....	1	2
Lithuanian,	....	....	....	....	....	....	....	....	1	....	....	1	2
Russian,	....	....	....	....	....	1	....	....	....	....	....	1	2
Totals,	2	2	1	2	1	5	4	2	2	2	3	5	32

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	1	....	....	2	....	....	....	....	....	....	....	1	4
English,	2	....	....	....	....	....	....	....	....	....	....	....	2
Welsh,	3	....	....	....	1	....	....	....	....	....	....	....	4
Polish,	1	1	3	3	1	1	3	....	3	....	3	7	26
Hungarian,	1	....	....	....	....	....	....	....	....	....	....	....	1
Italian,	1	....	1	....	....	....	2	1	....	....	....	....	5
Slavonian,	....	....	....	1	....	....	....	....	1	....	....	....	2
Lithuanian,	....	....	....	....	....	....	....	....	....	1	....	....	1
Tyrolean,	....	....	....	....	1	....	....	....	....	....	....	....	1
Totals,	9	1	4	6	3	1	5	1	4	1	3	8	46

Digitized by Google

TABLE I. Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Name of operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Delaware, Lackawanna and Western Railroad Co., Anthracite Colliery															
Number 1,	Shaft,	Gaseous,	Fan,	25	8	8	70	2.4	Guibal,	Steam,	7	148,500	96,500	180,800	220
Number 2,	Shaft,	Gaseous,	Fan,	25	9.5	7	45	2	Guibal,	Steam,	6	170,800	134,300	196,500	268
Hilpe Colliery															
Hilpe,	Shaft,	Gaseous,	Fan,	25	9.1	9	52	2	Guibal,	Steam,	23	142,000	132,500	164,000	670
Hapy,	Tunnel,	Gaseous,	Fan,	24	9.25	10	72	1.6	Guibal,	Steam,	7	74,000	69,000	80,500	84
Tryesdale Colliery															
Number 1,	Shaft,	Gaseous,	Fan,	25	7	5	73	2.3	Guibal,	Steam,	19	237,843	227,500	241,000	300
Number 3,	Shaft,	Gaseous,	Fan,	25	7	5	78	2.5	Guibal,	Steam,	9	177,500	150,000	187,500	246
Number 7,	Slope,	Gaseous,	Fan,	16	7	5	90	2	Jeffrey,	Steam,	9	158,000	124,000	176,000	264
Number 5,	Slope,	Gaseous,	Fan,	12	5	4	145	2.8	Jeffrey,	Steam,	8	168,060	145,000	170,000	216
Number 6,	Slope,	Gaseous,	Fan,	12	3.25	3	124	.8	Open running,	Electricity,	8	55,200	50,100	70,200	139
Tryesdale,	Tunnel,	Gaseous,	Fan,	12	3.5	3.2	125	.5	Open running,	Electricity,	8	62,200	56,100	67,800	177
Number 20,	Tunnel,	Gaseous,	Fan,	12											
Susquehanna Coal Co. Colliery No. 5:															
Number 2,	Shaft,	Gaseous,	2 Fans,	25	8	8	52	3	Guibal,	Steam,	7	62,850	60,670	84,700	280
				20	6	6	76	3			1	30,400	29,000	32,000	19
Number 4,	Slope,	Gaseous,	4 Fans,	20	8	8	50	2.7	Guibal,	Steam,	13	54,100	52,200	55,200	43
				25	6	6	76	3			3	79,840	78,460	89,690	70
				20	6	6	90	2.8			3	66,000	61,000	71,300	50
				20	5.6	5	90	2.7			3	65,000	59,000	73,000	22
				15	4	4	72	2.2			1	24,200	17,200	25,200	45

Digitized by Google

Number 1,	Slope,	Non-gas.,	Natural,								1	5,063	4,200	5,214	14
Number 29,	Tunnel,	Non-gas.,	Natural,								1	16,800	3,760	18,000	17
Number 2,*	Drift,	Non-gas.,	Natural,								1	15,210	5,100	15,300	11
Number 4,	Shaft,	Gaseous,	Fan,	20	6	6	60	1.2	Vulcan,	Steam,	10	115,000	101,000	119,000	300
Number 5,	Shaft,	Gaseous,	Fan,	8	3.5	1.5	42	.2	Sturtevant,	Steam,	2	15,000	12,000	17,000	10
Colliery No. 6:															
Number 6,	Tunnel,	Gaseous,	Fan,	20	6	6	60	.7	Guibal,	Steam,	6	94,000	85,000	95,000	195
Number 6,	Shaft,	Gaseous,	3 Fans,	25	8	8	60	.9	Guibal,	Steam,	8	163,000	125,000	168,000	210
				20	6	6	50	.2	Guibal,	Steam,					
				10	5	1.75	150	1.8	Jeffrey,	Electricity					
Number 7,	Shaft,	Gaseous,	Fan,	20	6	6	55	.2	Guibal,	Steam,	7	68,000	65,000	70,000	295
Number 10,	Slope,	Gaseous,	Fan,	7.5	2	3	175	1.5	Capell,	Electricity,	2	60,000	58,000	62,000	20
Number 1,	Drift,	Gaseous,													
Colliery No. 7:															
Number 1, South,	Shaft,	Gaseous,	2 Fans,	25	8	8	72	2.6	Guibal,	Steam,	10	185,000	161,000	201,000	405
				25	8	8	50	2.8	Guibal,	Steam,					
Number 1, North,	Shaft,	Gaseous,	4 Fans,	20	8	8	50	2.7	Guibal,	Steam,	11	182,000	146,000	199,000	404
				15	4	4	76	1.7	Guibal,	Steam,					
				10	2.5	2.5	180	2.3	Capell,	Electricity					
				25	8	8	50	2.6	Guibal,	Steam,					
West End Coal Co.															
West End Colliery:															
Long,	Drift,	Gaseous,	Fan,	16	4	6	100	1.5	Guibal,	Steam,	4	110,000	70,000	131,000	300
Sand,	Drift,	Gaseous,	Fan,	4	1.6	1	150	.5	Buffalo,	Electricity,	2	11,000	9,000	13,200	135
Barney,	Drift,	Non-gas.,	Fan,	16	4	6	60	.8	Guibal,	Steam,	2	67,000	48,000	68,000	91
Lee,	Shaft,	Gaseous,	Fan,	8	5	2.3	130	1.4	Jeffrey,	Electricity,	8	63,800	57,000	66,300	86
Number 1, Lee,	Drift,	Gaseous,	Fan,	15	4.5	4.5	90	.8	Guibal,	Electricity,	3	96,300	75,000	99,300	224
Number 3, Lee,	Drift,	Non-gas.,	Fan,	4	1.6	1	150	.5	Buffalo,	Electricity,	2	11,000	9,000	12,200	200
Lehigh and Wilkes-Barre Coal Co.															
Wanamie Colliery:															
Number 2,	Slope,	Gaseous,	Fan,	24	8	6	70	1.2	Guibal,	Steam,	11	137,560	102,880	177,000	342
Number 1,	Drift,	Gaseous,													
Number 3,	Drift,	Gaseous,	Fan,	24	8	6	70	1.3	Guibal,	Steam,	9	128,570	115,700	139,750	228
Number 3,	Slope,	Gaseous,													
Polander,	Drift,	Gaseous,													
Number 28,	Tunnel,	Gaseous,	Fan,	8	2.8	2.5	60	.5	Guibal,	Steam,	1	8,500	7,000	9,800	16
Alden Coal Co.															
Alden Colliery:															
Number 1,	Shaft,	Gaseous,	Fan,	15	5	4.7	84	1.8	Guibal,	Steam,	5	62,850	57,100	78,200	77
Number 2,	Shaft,	Gaseous,	2 Fans,	24	8	7	66	1.2	Guibal,	Steam,	13	169,760	126,126	185,200	207
				24	9	5.9	70	1.1							
Baltimore,	Slope,	Non-gas.,	Fan,	15	5	4.7	40	1.	Guibal,	Steam,	1	12,700	12,500	13,000	43

*New mine.

Digitized by Google

TABLE 1.—Continued.

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Length of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of shafts of air entrance	Number of cubic feet of air per minute entering the mine at fans	Number of cubic feet of air per minute circulating in and the mine	Number of cubic feet of air per minute passing the face of each	Number of men employed underground
E. S. Stackhouse Coal Co.															
Salem Colliery:															
Penobscot,	Drift,	Non-gas.,	Natural,								1	12,000	12,000	12,000	10
Penobscot,*	Slope,										1	6,000	6,000	6,000	10
Iona,	Drift,										1	12,000	12,000	12,000	10
Beadle,	Drift,										1	12,000	12,000	12,000	10
Churchey,	Drift,										1	12,000	12,000	12,000	10
Rose Split,	Drift,										1	8,000	8,000	8,000	10
Number 4,*	Drift,										1	1,000	1,000	1,000	2
											1	12,000	12,000	12,000	10
Number 8,	Drift,										1	6,400	6,400	6,400	10
Old,*	Tunnel,										1	12,500	8,000	8,000	10
New,*	Tunnel,										1	16,000	16,000	16,000	10

*New mine.

Digitized by Google

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Delaware, Lackawanna and Western Railroad Co.						
Auchincloss,	Luzerne,	R. A. Phillips, General Manager. C. E. Tobey, General Superintendent.	Scranton, Scranton,	H. G. Davis,	Kingston,	D. L. and W.
Bliss,						
Truesdale,						
Susquehanna Coal Co.						
Numbers 5, 6, 7,	Luzerne,	Robert A. Quin,	Wilkes-Barre,	Francis H. Kohlbraker.	Nanticoke,	Pennsylvania
Nanticoke Washery,						
West End Coal Co.						
West End,	Luzerne,	H. H. Brady,	Scranton,	H. A. Filmore,	Shickshinny,	Pennsylvania and C. R. R. of N. J.
Lehigh and Wilkes-Barre Coal Co.						
Wanamie,	Luzerne,	C. F. Huber, Vice President and General Manager.	Wilkes-Barre,	E. J. Newbaker,	Wilkes-Barre,	C. R. R. of N. J.
Alden Coal Co.						
Alden,	Luzerne,	K. M. Smith,	Alden Station,			C. R. R. of N. J.
E. S. Stackhouse Coal Co.						
Salem,	Luzerne,	E. S. Stackhouse,	Shickshinny,			D. L. and W.

Digitized by Google

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives: Number of pounds of powder used	Explosives: Number of pounds of dynamite used	Explosives: Number of pounds of permissible explosives used	Number of horses and mules
Delaware, Lackawanna and Western Railroad Co.													
Auchincloss,	Luzerne,	210,939	16,938	7,732	235,609	221	628	2	.....	72,650	5,223	68,775	36
Bliss,		443,446	26,886	3,248	473,580	269	909	.....	.....	38,200	17,802	17,438	64
Truesdale,		1,089,092	31,812	419	1,121,323	234	1,739	10	2	867,325	101,680	178,550	36
Totals,		1,743,477	75,636	11,399	1,830,512	.....	3,276	12	2	978,175	127,705	264,763	136
Susquehanna Coal Co.													
Number 5,	Luzerne,	395,021	81,482	11,848	488,351	230	1,319	4	15	299,875	33,860	5,550	120
Number 6,		579,516	49,791	4,930	634,237	257	1,153	6	5	396,975	27,732	19,518	81
Number 7,		340,708	63,067	7,024	410,799	221	1,155	5	6	145,350	22,311	73,065	121
		1,315,245	194,340	23,802	1,533,387	.....	3,627	15	26	842,200	83,903	98,133	322
Nanticoke Washery,		144,156	1,674	.....	145,830	206	62	.....	.....	.....	.....	.....	.....
Totals,		1,459,401	196,014	23,802	1,679,217	.....	3,689	15	26	842,200	83,903	98,133	322
West End Coal Co.													
West End,	Luzerne,	575,131	47,000	9,124	631,255	232	1,335	.....	7	188,350	76,948	147,587	45
Lehigh and Wilkes-Barre Coal Co.													
Wanamie,	Luzerne,	510,446	43,601	2,825	556,872	248	801	1	9	294,350	16,580	74,591	95

Digitized by Google

Alden,	Alden Coal Co.	Luzerne,	262,452	30,532	8,504	301,488	200	737	2	.....	172,825	9,300	33,450	67
			45,158	978	955	47,091	166	172	2	2	17,450	19,105	.....	3
			4,596,085	283,767	56,609	5,046,485	224	10,007	27	46	2,498,350	333,541	618,324	968
Salem,	E. S. Stackhouse Coal Co.													
	Grand totals,													

Digitized by Google

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers					Locomotives			Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric							
Delaware, Lackawanna and Western Railroad Co.,	Luzerne,	.....	.....	13	5,318	5,318	2	.....	51	55	10,775	8	6,580	5,880	7	5
Susquehanna Coal Co.,		30	1,010	48	12,214	13,224	15	12	9	91	13,455	8	7,750	4,433	8	11
West End Coal Co.,		.....	.....	10	3,300	3,300	7	.....	16	28	2,440	8	4,700	4,200	5	3
Lehigh and Wilkes-Barre Coal Co.,		.....	.....	10	1,666	1,666	3	.....	.....	45	2,873	3	4,992	2,400	.....	.....
Alden Coal Co.,*		.....	.....	11	2,262	2,262	2	.....	.....	9	1,375	2	1,800	1,000	1	4
E. S. Stackhouse Coal Co.,		.....	.....	2	100	100	.....	.....	4	.....	.....	2	225	200	1	1
Totals,	.....	30	1,010	94	24,860	25,870	29	12	80	228	30,918	31	26,047	18,113	22	24

*Gasoline locomotives are used inside.

Digitized by Google

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside											Outside									Grand total inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	
Delaware, Lackawanna and Western Railroad Co.,	Luzerne,	6	5	29	978	1,010	88	46	15	594	....	2,771	..	4	89	59	126	9	11	257	506	3,276
Susquehanna Coal Co.,		4	10	35	822	787	247	47	20	60	502	2,534	1	5	100	184	143	36	18	668	1,155	3,689
West End Coal Co.,		4	7	2	432	240	30	8	7	206	....	1,036	1	1	23	26	41	25	5	169	296	1,332
Lehigh and Wilkes-Barre Coal Co.,		1	2	8	290	159	53	29	6	89	....	627	..	1	7	25	81	7	4	99	174	801
Alden Coal Co.,		1	1	6	210	150	93	19	5	....	....	560	1	1	12	22	30	33	8	60	177	737
E. S. Stackhouse Coal Co.,		1	....	....	31	42	12	....	....	....	75	124	1	1	4	3	10	2	3	24	43	172
Totals,		17	25	80	2,763	2,488	523	149	53	963	583	7,652	4	13	190	329	331	112	49	1,277	2,355	10,007

Digitized by Google

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Delaware, Lackawanna and Western Railroad Co., ...	Luzerne, ...	24	22	15	22	22	23	23	23	21	21	19	23	258
Susquehanna Coal Co., ...		20	18	17	24	23	24	17	18	21	21	19	21	243
West End Coal Co., ...		20	20	13	21	19	20	20	21	19	20	19	20	232
Lehigh and Wilkes-Barre Coal Co., ...		21	20	13	21	21	22	21	19	23	24	21	22	248
Alden Coal Co., ...		17	17	14	20	13	18	15	17	17	19	16	18	201
E. S. Stackhouse Coal Co., ...		20	22	18	10	12	13	14	1	12	12	11	14	166

Digitized by Google

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 2	John Granzda, ...	Polish,.....	Laborer, ...	22	S.	....	....	Number 6, ...		Killed by falling under car that was being hoisted up slope.
30	Martin Mecanovage, ..	Polish,.....	Miner, ...	25	M.	1	3	Number 5, ...		Killed by fall of coal at face of chamber while removing pillars.
Feb. 1	John Sprenoga, ...	Slavonian,..	Miner, ...	38	M.	1	2	Number 6, ...		Killed by fall of coal at face of chamber.
18	William Raub, ...	American,..	Electrician, .	21	S.	....	....	Truesdale, ...		Electrocuted while repairing auto starter in breaker. Outside.
March 12	Thomas Rogers, ...	American,..	Footman, ...	29	M.	1	1	Truesdale, ...		Fatally squeezed between cars on slope lift.
April 22	Stanley Ozekoski, ...	Polish,.....	Laborer, ...	32	S.	....	..	Number 6, ...		Instantly killed by fall of coal while removing pillars.
22	Frank Burkoski, ...	Polish,.....	Miner, ...	61	M.	1	2			Fatally injured by fall of coal while removing pillars.
May 20	Charles Kolokofski, ..	Polish,.....	Miner, ...	43	M.	1	6	Alden, ...		Killed by fall of rock at the face of chamber.
June 5	Mike Patson, ...	Russian, ...	Miner, ...	35	M.	1	4	Truesdale, ...		Fatally injured by fall of rock at face of gangway.
19	Albert Ruddick, ...	American,..	Footman, ...	21	M.	1	....	Truesdale, ...	Luzerne, ...	Fatally injured by cars on slope.
20	Elmer Thomas, ...	Welsh,.....	Laborer, ...	20	S.	....	....	Truesdale, ...		Killed by fall of rock at face of gangway.
23	John Kapushinski, ...	Polish,.....	Laborer, ...	35	M.	1	5	Number 7, ...		Killed by fall of rock at face of chamber.
27	Fred Stackhouse, ...	American,..	Laborer, ...	29	M.	1	1	Number 7, ...		Fatally injured by fall of rock at face of chamber.
July 10	Peter Gozden, ...	Polish,.....	Laborer, ...	29	M.	1	3	Number 6, ...		Hit on head by prop dislodged by derailed car.
22	William Warlow, ...	Welsh,.....	Mason, ...	64	M.	1	..	Number 7, ...		Fatally injured by concussion from explosion of gas.
	Ignotz Washelefski, ..	Polish,.....	Miner, ...	26	M.	1	2			Fatally burned by explosion of gas.
	Edward Zvolinski, ...	Polish,.....	Laborer, ...	36	S.	....	..			Fatally burned by explosion of gas.
Aug. 14	John Adrozak, ...	Polish,.....	Driver, ...	17	S.	....	....	Number 5, ...		Fatally squeezed between derailed car and prop at face of chamber.
20	Joe Wilkes, ...	Polish,.....	Miner, ...	27	M.	1	...	Alden, ...		Fatally injured by delayed blast in gangway.
Sept. 15	Ignotz Yourgin, ...	Lithuanian,	Miner, ...	36	M.	1	2	Salem, ...		Killed by fall of roof while removing pillars at face of chamber.

Digitized by Google

TABLE 4.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Sept. 25	James McLaughlin, ..	American, ..	Brakeman, ..	26	S.	....	....	Truesdale, ...		Killed by timber falling on him when dislodged by derailed car.
27	Max Covitz, ...	German, ...	Laborer, ...	52	M.	1	5	Truesdale, ...		Fatally injured by fall of rock at face of airway.
Oct. 9	John Ginginski.	Polish, ...	Laborer, ...	18	S.	....	....	Number 6.		Killed by fall of roof at face of place while removing pillars.
21	Albert Titus, ...	English, ...	Chute tender,	20	S.	....	....	Salem, ...		Fatally injured by being caught in revolving shaft. Outside.
Nov. 7	Charles Reich, ...	German, ...	Shaftman, ..	48	M.	1	4	Auchincloss, ...	Luzerne, ...	Killed by fall of part of concrete while repairing cage.
	John Englehart, ...	German, ...	Shaftman, ..	37	M.	1	6			Killed by fall of part of concrete while repairing cage.
8	James Evans, ...	American, ..	Footman, ...	23	S.	....	....	Truesdale, ...		Killed by runaway car at foot of slope.
Dec. 8	Andrew Seletski, ...	Slavonian, ..	Miner, ...	26	M.	1	2	Number 5, ...		Killed by fall of rock at face of chamber.
	Andrew Yorshack, ,,	Russian, ...	Miner, ...	36	M.	1	5	Truesdale, ...		Killed by fall of coal in crosscut.
16	Stanley Bednarek, ..	Polish, ...	Motorman, ..	21	S.	....	....	Truesdale, ...		Killed by fall of roof when car jumped track and knocked out timber.
19	Peter Mykolichik, ...	Polish, ...	Laborer, ...	22	S.	....	....	Number 5, ...		Killed by fall of roof.
22	Joe Vingle, ...	Lithuanian,	Laborer, ...	52	S.	....	....	Wanamie, ...		Killed by fall of roof on 8 tunnel while going out of mine.

Digitized by Google

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 2	Leslo Kataco, ...	Hungarian, .	Miner, ...	32	M.	West End, ...	Luzerne, ...	Leg broken by fall of coal at face of chamber.
22	Anolf Albins, ...	Italian, ...	Miner, ...	34	S.	Wanamie, ...		Head and body injured by delayed blast.
23	Thomas Griffiths, ...	Welsh,.....	Runner, ...	31	S.	Number 5, ...		Skull fractured. The several persons here mentioned were coming up No. 4 slope on trip of empty cars, when in some manner the clevice by which the rope was attached to cars broke or came open allowing the cars to run back.
	John Conroy, ...	American, ..	Pumpman, ...	34	M.			Skull fractured.
	Thomas Beese, ...	English, ...	Fire boss, ...	52	M.			Body bruised.
	Frank Swida, ...	Polish,.....	Laborer, ...	21	S.			Head and back injured.
	Daniel T. Richards, ..	Welsh,.....	Fire boss.	52	M.			Head and back injured.
	Thomas Cooke, ...	English, ...	Fire boss, ...	31	M.			Head cut.
	John D. Evans, ...	Welsh,.....	Fire boss, ...	44	M.			Toes smashed.
Feb. 28	Peter Maclowski, ...	Polish,.....	Laborer, ...	27	S.	Wanamie, ...		Arm and leg broken by fall of top coal at face of chamber.
March 8	Frank Nowak, ...	Polish,.....	Footman, ...	21	S.	Number 5, ...		Foot smashed caught under cage at foot of shaft.
12	Frank Goolash, ...	Italian, ...	Laborer, ...	19	S.	Salem, ...		Body and arm injured by runaway car on chamber road.
13	Leonard Hereshinski,.	Polish,.....	Laborer, ...	46	M.	Number 7, ...		Injured by slide of rock in chamber.
28	Barney Shiesko, ...	Polish,.....	Miner, ...	23	M.	Number 7, ...		Ankle fractured by fall of coal in working place.
April 2	Andrew Goshmsky, ..	Polish,.....	Miner, ...	42	M.	Wanamie, ...		Leg broken by falling down pitch chamber.
3	Mike Vovorsak, ...	Slavonian, ..	Miner, ...	24	M.	West End, ...		Leg broken by derailed car in chamber.
14	Walter Trynoski, ...	American, ..	Footman, ...	21	S.	Wanamie, ...		Leg broken by fall of coal at face of slope.
15	Leo Poshinski, ...	American, ..	Chute tender, ...	17	S.	Number 5, ...		Hip dislocated by falling on revolving screen. Outside.
23	Joseph Zavatski, ...	Polish,.....	Miner, ...	38	S.	Number 6, ...		Arm broken by fall of rock at face of chamber.
28	Wladislaw Grotkoshi,	Polish,.....	Laborer, ...	27	M.	Number 5, ...		Leg broken by fall of rock in chamber.
May 20	Louis Ramlow, ...	Polish,.....	Miner, ...	36	M.	Number 7, ...		Skull fractured by flying coal from premature blast.

Digitized by Google

CONDITION OF COLLIERIES

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Auchincloss Colliery.—Ventilation, drainage and condition as to safety good.

Bliss and Truesdale Collieries.—Ventilation good; drainage fair; condition as to safety good.

SUSQUEHANNA COAL COMPANY

Numbers 5 and 6 Collieries.—Ventilation and drainage fair; condition as to safety good.

No. 7 Colliery.—Ventilation fair; drainage and condition as to safety good.

WEST END COAL COMPANY

West End Colliery.—Ventilation and drainage fair; condition as to safety good.

LEHIGH AND WILKES-BARRE COAL COMPANY

Wanamie Colliery.—Ventilation and drainage fair; condition as to safety good.

ALDEN COAL COMPANY

Alden Colliery.—Ventilation and condition as to safety good; drainage fair.

E. S. STACKHOUSE COAL COMPANY

Salem Colliery.—Ventilation and drainage fair; condition as to safety good.

IMPROVEMENTS

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Auchincloss Colliery.—Steel supports have been erected on the main haulage road, No. 1 shaft, to replace timber, reducing to a great extent the possibility of danger to the employes in this section of the mine.

A rock slope has been driven from the Ross to the Red Ash seam, No. 2 shaft. A rock slope has been sunk from the top Ross vein to the bottom Ross vein, No. 1 shaft. Second openings and ventilating tunnels will soon be provided for these slopes.

No. 6 slope has been sunk from the Mills to the Hillman vein, and will be connected to the Baltimore vein.

A rock tunnel is now being driven from the Twin to the George vein.

Bliss Colliery.—A ventilating shaft has been sunk from the surface to the Baltimore vein, upon which will be installed a twenty foot multi-blade ventilating fan, erected by the Vulcan Iron Works.

No. 7 tunnel and its second openings are now being extended from the Baltimore to the Mills vein.

Digitized by Google

A rock slope is being driven through fault, west of No. 7 tunnel, to the Ross vein.

The entrance to the Espy tunnel section has been made fireproof by removing all timber sets, cribbing, et cetera, and erecting side walls and I beams.

SUSQUEHANNA COAL COMPANY

Colliery No. 5.—49 new steel-body mine cars were added to equipment.

81 sets of steel timber were placed in No. 8 tunnel.

No. 21 plane in No. 2 shaft was driven 78 yards.

For protection against fire about the colliery an Ajax chemical fire engine was added to equipment.

Mills slope in No. 4 slope was driven 48 yards and completed.

A new No. 46 tunnel from Mills to Mills seam in No. 4 slope was driven 83 yards.

A new No. 47 tunnel from Forge to Cooper seam in No. 4 slope was driven 68 yards.

A new 14 by 8 by 13 horizontal piston pump was installed in the Hillman slope in No. 2 shaft.

The head of No. 4 slope, which was originally wood, was made fireproof with concrete and steel. There is no wooden timber in this slope within 800 feet of the head.

A new Telephone Exchange was installed in the supply store. The exchange is connected with all openings about Nos. 5 and 7 Collieries and an operator is on duty from 6 a. m. to 6 p. m. daily.

Commenced the building of a new steam line from Colliery No. 7, new Babcock and Wilcox boilers, to Black Hill, Lee, Ross and No. 1 slope. This line will be 15 inches for a distance of 2,200 feet and 5 inches for a distance of 4,300 feet.

No. 4 slope in No. 4 shaft was driven 29 yards and completed.

Colliery No. 6.—Installed in the power house a 20 by 24 by 7 inch R. H. Hamilton engine and Westinghouse generator.

Added to equipment 51 steelbody mine cars and a 10 by 16 inch tank locomotive. The locomotive hauls the coal between No. 7 shaft and the breaker.

No. 22 tunnel was driven 52⅓ yards and completed.

No. 11 slope in No. 7 shaft was driven 78 yards and completed.

11 sets of steel timber were placed in pump house at foot of No. 6 shaft.

No. 22 tunnel outlet was driven 190 yards.

A new 10 by 5 double inlet exhaust mine fan was installed to ventilate No. 7 shaft workings.

An electric pump was installed in No. 13 slope, No. 1 drift.

Colliery No. 7.—Placed in breaker 7 spiral pickers. In March commenced the erection of 4 batteries, 1818 horsepower Babcock and Wilcox boilers. This plant will furnish steam for the operation of Black Hill, Lee, Ross and No. 1 slope, replacing the old cylinder boilers now located at No. 2 slope, Lee and Ross.

New rock plane in north shaft was driven 86 yards and completed.

No. 31 slope in south shaft was driven 100 yards.

Installed in No. 19 slope in south shaft a pair of 10 by 12, 50 horsepower double cylinder friction drum hoisting engines.

Placed in No. 7 plane in north shaft 33 sets of steel timber.

An airway, top split of Mills, north shaft, was driven 132 yar

Digitized by Google

LEHIGH AND WILKES-BARRE COAL COMPANY

Wanamie Colliery. Inside: Extended No. 26 tunnel from Ross to Baltimore; No. 30 tunnel from Cooper to Hillman; No. 35 tunnel from top to bottom Baltimore; tunnel from Kidney to Kidney, No. 8 tunnel west; No. 34 tunnel from Hillman to Kidney; No. 31 tunnel from Kidney to Abbott; Nos. 32 and 33 tunnels from top to bottom Baltimore; No. 36 tunnel from Ross to Baltimore.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in the High School Building, Nanticoke, April 22 and 23. The Board of Examiners was composed of Joseph J. Walsh, Mine Inspector; F. H. Kohlbraker, Superintendent; Frank Kettle and Joseph Dzialdowski, Miners.

The following persons passed a satisfactory examination and were granted certificates:

MINE FOREMEN

Frank Kettrick, Robert C. Davis, Benjamin Davies, Edwin C. Curtis, Nanticoke; James Bryan, Alden; David M. Phillips, Glen Lyon; Gaza F. Kaiser, Shickshinny.

ASSISTANT MINE FOREMEN

Rhys Evans, Thomas J. Evans, Murray S. Grant, Francis Higgins, David G. Jones, Edgar Jones, John Joseph Gruyger, Matthew Lacey, Thomas Millington, Thomas Murphy, Joseph Maza, John Palenchar, Herbert Swales, James Thompson, Albert Turley, Ernest E. Turner, John Wadzinski, Nanticoke; Edward C. Barrett, William H. Craig, Frank Bizenski, Fred Horlacher, John J. McGeady, Thomas W. Morgan, Thomas Ira Morris, James Phillips, Wanamie; John W. Bryan, James G. Jeffries, Fred Morgan, Alden; Martin Considine, Wilkes-Barre; Thomas Farrall, Richard Gill, Parsons; Hertz H. Harter, Mocanaqua; John Matusavage, Bolish Mashinski, Glen Lyon; George W. Reng, Shickshinny; Thomas Thomas, Shamokin; David J. Williams, Warrior Run.

Digitized by Google

ELEVENTH DISTRICT

LUZERNE COUNTY

Hazleton, Pa., February 18, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor of transmitting herewith my annual report as Inspectors of Mines for the Eleventh Anthracite District, for the year ending December 31, 1913.

Respectfully submitted,

DAVID J. RODERICK,
Inspector.

Digitized by Google

SUMMARY OF STATISTICS

Number of collieries,	21
Number of mines,	80
Number of mines in operation,	78
Number of tons of coal shipped to market,	5,071,327
Number of tons used at mines for steam and heat,	670,108
Number of tons sold to local trade and used by employes,	134,335
Number of tons produced,	5,875,770
Number of tons produced by compressed air machines,	.....
Number of tons produced by electrical machines,	.....
Number of persons employed inside of mines,	7,432
Number of persons employed outside,	3,670
Number of fatal accidents inside of mines,	20
Number of fatal accidents outside,	3
Number of non-fatal accidents inside of mines,	44
Number of non-fatal accidents outside,	18
Number of tons of coal produced per fatal accident inside,	293,788
Number of tons produced per fatal accident outside,	1,958,590
Number of tons produced per fatal accident inside and outside,	255,468
Number of persons employed per fatal accident inside,	372
Number of persons employed per fatal accident outside,	1,223
Number of persons employed per fatal accident inside and outside,	483
Number of persons employed per non-fatal accident inside,	169
Number of persons employed per non-fatal accident outside,	204
Number of persons employed per non-fatal accident inside and outside,	179
Number of wives made widows,	14
Number of children made orphans,	40
Number of steam locomotives used inside of mines,	15
Number of steam locomotives used outside,	76
Number of compressed air locomotives used inside,	11
Number of compressed air locomotives used outside,	.....
Number of electric motors used inside,	28
Number of electric motors used outside,	.....
Number of fans in use,	52
Number of furnaces in use,	1
Number of gaseous mines in operation,	28
Number of non-gaseous mines in operation,	50
Number of new mines opened,	.....
Number of old mines abandoned,	.....

Digitized by Google

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
G. B. Markle Company,	1,451,311
Lehigh Valley Coal Company,	1,064,952
Coxe Brothers and Company, Incorporated,	935,716
Pardee Brothers and Company, Incorporated,	637,561
A Pardee and Company,	586,597
C. M. Dodson and Company,	393,325
Harwood Coal Company,	176,394
Upper Lehigh Coal Company,	171,510
J. S. Wentz and Company,	142,260
Harleigh Brookwood Coal Company,	109,963
M. S. Kemmerer and Company,	98,931
Hazle Mountain Coal Company,	97,188
Wolf Coal Company,	6,505
Thomas R. Reese and Son,	3,557
Total,	5,875,770

Production by Counties

Luzerne,	5,867,081
Carbon,	8,689
Total,	5,875,770

Digitized by Google

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Name of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
G. B. Markle Co.,	3	.....	3	5	1	6	488,770	290,262	1,636	600	2,236	545	.....	327	600
Lehigh Valley Coal Co.,	6	.....	6	10	1	11	212,991	106,495	1,657	725	2,382	331	.....	166	725
Coxe Brothers and Co., Inc.,	.....	2	2	2	8	10	.....	467,858	857	478	1,335	.....	239	429	60
Pardee Brothers and Co., Inc.,	.....	.....	.....	3	.....	3	.....	212,520	730	399	1,129	.....	.....	243	.....
A. Pardee and Co.,	.....	1	3	10	.....	10	293,299	58,660	1,019	505	1,524	510	505	102	254
C. M. Dodson and Co.,	2	.....	2	4	1	5	196,663	98,331	490	254	744	245	.....	122	.....
Harwood Coal Co.,	.....	.....	.....	2	.....	2	.....	88,197	302	149	451	.....	.....	151	.....
Upper Lehigh Coal Co.,	.....	.....	.....	.....	1	1	.....	.....	92	142	234	.....	.....	.....	142
I. S. Wentz and Co.,	.....	.....	.....	2	4	6	142,260	71,130	150	123	273	150	.....	75	41
Harleigh Brookwood Coal Co.,	3	.....	3	2	1	3	36,654	54,981	181	102	283	60	.....	91	102
M. S. Kemmerer and Co.,	1	.....	1	1	.....	1	98,931	98,931	143	101	244	143	.....	143	.....
Hauk Mountain Coal Co.,	1	.....	1	3	.....	4	97,188	82,396	160	85	245	160	.....	53	85
Wolf Coal Co.,	2	.....	2	.....	1	.....	8,252	.....	8	4	13	5	.....	.....	.....
Thomas R. Reese and Son,	.....	.....	.....	.....	.....	.....	.....	.....	6	3	9	.....	.....	.....	.....
Totals and averages for district,	27	3	29	44	18	62	293,783	133,540	7,427	3,670	11,102	572	1,223	169	204

Digitized by Google

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	2	....	1	....	....	1	1	....	....	....	....	1	6	30.00
Falls of slate,	....	....	....	1	....	1	....	1	2	....	....	....	5	25.00
Falls of roof,	....	....	....	....	....	1	....	....	....	....	....	....	1	5.00
Mine cars,	....	1	....	....	....	1	....	....	2	1	....	....	5	25.00
Blasts, premature and otherwise,	....	....	....	....	....	1	1	....	....	....	....	....	2	10.00
Struck by car wheel,	....	....	....	....	1	....	....	....	....	....	....	....	1	5.00
Totals,	2	1	1	1	1	5	2	1	4	1	....	1	20	100.00
Causes of Accidents Outside														
Cars,	....	....	....	....	....	....	....	....	....	....	....	1	1	33.33
Explosions of powder,	....	....	....	....	....	....	....	....	2	....	....	....	2	66.67
Totals,	....	....	....	....	....	....	....	....	2	....	....	1	3	100.00
Grand totals inside and outside,	2	1	1	1	1	5	2	1	6	1	....	2	23	.....

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	2	....	1	....	....	....	....	1	....	1	....	1	6	13.63
Falls of slate,	....	1	....	....	....	....	1	....	3	2	....	....	7	15.91
Falls of roof,	....	....	....	....	....	1	1	....	....	....	1	....	3	6.82
Mine cars,	....	1	1	1	1	....	1	....	1	3	....	3	14	31.82
Explosions of gas,	....	....	....	....	1	....	....	....	....	....	....	2	3	6.82
Explosions of powder and dynamite,	....	....	1	....	....	....	....	2	....	....	....	....	3	6.82
Blasts, premature and otherwise,	....	....	....	....	....	1	....	....	....	....	1	1	3	6.82
By jumping,	....	....	1	....	....	....	....	....	....	....	....	....	1	2.27
Cut by ads,	....	....	....	....	....	....	....	....	....	1	....	....	1	2.27
Mules,	....	....	....	....	1	....	....	....	....	....	....	....	1	2.27
Struck by timber,	....	....	....	....	....	....	....	....	....	....	1	1	2	4.55
Totals,	2	2	4	1	3	2	3	3	4	7	5	8	44	100.00
Causes of Accidents Outside														
Cars,	1	1	....	....	1	1	1	....	2	....	....	....	7	38.89
Machinery,	....	1	2	....	....	....	....	....	....	....	....	....	3	16.66
By falling,	....	....	....	....	....	....	....	....	....	1	....	3	4	22.22
Scalded by steam,	....	....	....	....	....	....	....	....	....	1	....	....	1	5.56
Burned by hot tar,	....	....	....	1	....	....	....	....	....	....	....	....	1	5.56
Struck by piece of iron,	1	....	....	....	....	1	....	....	....	....	....	....	2	11.11
Totals,	2	2	2	1	1	2	1	....	2	2	....	3	18	100.00
Grand totals inside and outside,	4	4	6	2	4	4	4	3	6	9	5	11	62	.....

Digitized by Google

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	1	....	....	....	....	3	2	1	2	....	....	1	10
Miners' laborers,	1	....	1	1	1	2	....	....	1	....	....	....	7
Drivers and runners,	....	....	....	....	....	....	....	....	....	1	....	....	1
Patchers,	....	1	....	....	....	....	....	....	....	....	....	....	1
Hitchers,	....	....	....	....	....	....	....	....	1	....	....	....	1
Totals,	2	1	1	1	1	5	2	1	4	1	....	1	20
Outside													
Chargemen,	....	....	....	....	....	....	....	....	1	....	....	....	1
Laborers,	....	....	....	....	....	....	....	....	1	....	....	1	2
Totals,	....	....	....	....	....	....	....	....	2	....	....	1	3
Grand totals inside and outside,	2	1	1	1	1	5	2	1	6	1	....	2	23

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Fire bosses and assistants,	....	....	....	....	1	....	....	....	1	....	1	....	3
Miners,	1	....	1	....	....	1	2	3	2	5	2	3	29
Miners' laborers,	1	1	2	....	....	1	....	....	1	1	1	1	9
Drivers and runners,	....	1	....	1	1	....	....	....	....	....	....	2	5
Doorboys and helpers,	....	....	....	....	1	....	1	....	....	....	....	....	2
Pumpmen,	....	....	1	....	....	....	....	....	....	....	....	....	1
Loaders,	....	....	....	....	....	....	....	....	....	....	1	....	1
Patchers,	....	....	....	....	....	....	....	....	....	1	....	....	1
Motormen,	....	....	....	....	....	....	....	....	....	....	....	1	1
Oilers,	....	....	....	....	....	....	....	....	....	....	....	1	1
Totals,	2	2	4	1	3	2	3	3	4	7	5	8	44
Outside													
Foremen,	....	....	....	....	....	....	....	....	....	....	....	1	1
Machinists,	....	....	....	....	....	....	....	....	....	1	....	....	1
Switchmen,	....	....	....	....	....	....	....	....	1	....	....	....	1
Blacksmiths and carpenters,	1	....	....	1	....	....	....	....	....	....	....	....	2
Loaders,	....	....	....	....	....	....	....	....	....	....	....	1	1
Slate pickers (boys),	....	....	....	....	....	....	....	....	....	1	....	....	1
Trackmen,	....	1	....	....	....	....	....	....	....	....	....	....	1
Oilers,	....	1	....	....	....	....	....	....	....	....	....	....	1
Hitchers,	1	....	....	....	....	....	....	....	....	....	....	....	1
Drivers,	....	....	....	....	1	....	....	....	....	....	....	....	1
Jig runners,	....	....	1	....	....	....	....	....	....	....	....	....	1
Cranemen,	....	....	1	....	....	....	....	....	....	....	....	....	1
Patchers,	....	....	....	....	....	1	1	....	....	....	....	....	2
Laborers,	....	....	....	....	....	1	....	....	1	....	....	1	3
Totals,	2	2	2	1	1	2	1	....	2	2	....	3	18
Grand totals inside and outside,	4	4	6	2	4	4	4	3	6	9	5	11	62

Digitized by Google

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	....	....	....	....	....	....	....	....	3	1	....	....	4
German,	....	....	....	....	....	....	....	....	....	....	....	1	1
Polish,	....	1	....	1	1	2	1	1	1	....	....	....	6
Hungarian,	....	....	....	....	....	....	....	....	2	....	....	....	2
Italian,	....	....	1	....	....	1	....	....	....	....	....	....	2
Slavonian,	1	....	....	....	....	1	1	....	....	....	....	1	4
Lithuanian,	....	....	....	....	....	1	....	....	....	....	....	....	1
Austrian,	1	....	....	....	....	....	....	....	....	....	....	....	1
Totals,	2	1	1	1	1	5	2	1	6	1	....	2	23

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	2	....	2	1	3	2	....	1	1	4	1	3	20
German,	....	1	....	....	1	....	1	....	....	....	1	....	4
Polish,	2	1	1	....	....	1	....	1	....	2	2	4	14
Hungarian,	....	....	....	....	....	....	....	....	2	....	....	....	2
Italian,	....	....	1	....	....	1	2	....	1	1	1	....	7
Slavonian,	....	2	2	1	....	....	1	....	....	2	....	4	12
Lithuanian,	....	....	....	....	....	....	....	1	....	....	....	....	1
Austrian,	....	....	....	....	....	....	....	....	1	....	....	....	1
Arabian,	....	....	....	....	....	....	....	....	1	....	....	....	1
Totals,	4	4	6	7	4	4	4	3	6	9	5	11	62

Digitized by Google

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
G. B. Markle Co.															
Jeddo No. 4 Colliery:															
Jeddo No. 4, ...	Slope,.....	Gaseous,..	3 Fans,	25	7.10	7.4	60	2.8			4	39,000	37,000	46,500	100
				16	4.6	4.9	75	1.			4	32,300	28,000	44,700	95
				16	5.0	5.0	75	1.			2	31,800	20,500	44,500	90
Jeddo No. 4, ...	Shaft, ...	Non-gas.,.	Fan, ...	16	4.6	4.8	82	1.	Guibal, ...	Steam,....	3	45,000	40,000	49,500	80
Ebervale Colliery:															
Ebervale, ...	Slope,.....	Gaseous,..	2 Fans,	10	3.1	2.7	133	.9			2	18,520	11,448	17,121	36
				16	4.6	4.7	97	1.8			7	53,924	23,000	53,722	150
Jeddo No. 7 Colliery:															
Jeddo No. 7, Primrose and Holmes, ...	Slope,.....	Non-gas.,.	Fan, ...	16	4.6	4.8	50	.6	Guibal, ...	Electricity,	2	37,500	25,000	39,000	75
Jeddo No. 7, Mammoth and Wharton, ...	Slope,.....	Non-gas.,.	Natural, ..	.....	.....	.....	.....	.....	.....	.....	1	10,000	7,700	5,000	28
Highland No. 5 Colliery:															
Highland No. 5, ...	Slope,.....	Gaseous,	Fan, ...	16	4.6	4.8	100	1.9	Guibal, ...	Steam,.....	3	45,000	18,600	46,000	46
			Natural, ..	.....	.....	.....	.....	.....	.....	.....	2	41,060	27,000	46,200	57
Highland Nos. 8, 9, 10,	Slope,.....	Non-gas.,.	2 Fans,	7	3.8	1.6	100	1.0	Guibal, ...	Steam,.....	3	27,805	18,070	33,070	51
				16	4.5	4.8	100	1.9	Guibal, ...	Steam,.....	3	35,000	19,500	45,000	68
Highland No. 2 Colliery:															
Highland No. 1, ...	Slope,.....	Gaseous,..	Natural, ..	.....	.....	.....	.....	.....	.....	.....	2	37,000	33,900	41,000	80
Highland No. 2, Buck Mountain, ...	Slope,.....	Gaseous,	Natural, ..	.....	.....	.....	.....	.....	.....	.....	1	27,000	26,200	29,800	32
			Fan, ...	16	4.10	4.10	70	.8	Guibal, ...	Steam,.....	1	10,000	9,200	11,000	33
Highland No. 6, ...	Slope,.....	Non-gas.,.	Fan, ...	16	4.6	4.9	90	1.	Guibal, ...	Steam,.....	5	64,500	45,000	76,000	142

Digitized by Google

Lehigh Valley Coal Co.																
Hazleton No. 1 Colliery:																
Hazleton No. 1,	Slope,	Gaseous,	Fan,	20	6.	6.	63	.80	Guibal,	Steam,	10	79,713	30,602	81,153	109
Hazleton No. 8,	Slope,	Gaseous,	2 Fans,	16	4.	4.6	50	.65	Guibal,	Steam,	5	32,348	17,749	37,348	58
				16	5.	5.6	55	.85	Guibal,	Steam,	*				
Hazleton Shaft Colliery:																
Hazleton Shaft,	Shaft,	Gaseous,	Fan,	20	7.	6.	65	.55	Guibal,	Steam,	10	115,800	40,800	135,100	198
Hazleton No. 3,	Slope,	Gaseous,	Fan,	17	5.	6.	65	.50	Guibal,	Steam,	5	60,200	30,900	65,300	77
Hazleton No. 5,	Slope,	Gaseous,	Fan,	14	4.9	4.	98	.55	Guibal,	Steam,	6	53,300	44,500	60,400	114
Stockton No. 2,	Slope,	Non-gas.,	Fan,	20	6.9	4.6	40	.55	Guibal,	Electricity,	5	34,000	30,000	35,000	22
Stockton No. 7,	Slope,	Non-gas.,	Natural,								2	19,500	13,300	20,500	39
Spring Brook Colliery:																
Spring Brook No. 1,	Slope,	Gaseous,	Fan,	16	4.	4.	60	.30	Guibal,	Steam,	4	37,000	27,500	37,500	34
Spring Brook No. 2,	Slope,	Gaseous,	Fan,	14	4.9	4.	70	.30	Guibal,	Electricity,	4	49,500	33,000	50,700	118
Spring Mountain Colliery:																
Spring Mountain No. 4,	Slope,	Non-gas.,	Fan,	20	6.9	4.6	40	.55	Guibal,	Steam,	3	49,500	39,800	51,000	65
Coxe Brothers and Co., Inc.																
Drifton Colliery:																
Drifton No. 1,	Slope,	Non-gas.,	Fan,	16	4.	4.	60		Guibal,	Steam,	8	57,000	57,000	63,000	83
Drifton No. 2,	Slope,	Gaseous,	2 Fans,	20	4.	5.6	80		Guibal,	Steam,	8	162,000	49,000	166,200	84
				17	4.	4.	80								
Eckley Colliery:																
Eckley No. 1,	Slope,	Non-gas.	Natural,								3	14,200	10,300	18,100	8
Eckley No. 2,			Natural,								3	30,000	14,000	32,400	29
Eckley No. 6,			Fan,	20	4.	5.6	80		Guibal,	Steam,	3	19,900	15,700	22,000	34
Eckley No. 10,			Natural,								4	51,000	34,000	51,500	44
Buck Mountain Colliery:																
Buck Mountain No. 11,	Slope,	Non-gas.,	Natural,								3	15,500	11,700	17,000	37
Deringer Colliery:																
Deringer,	Drift,	Gaseous,	Fan,	20	6.	5.6	90		Guibal,	Steam,	8	67,950	66,500	67,950	110
Gowen Colliery:																
Gowen Nos. 1 and 3,	Tunnel,	Gaseous,	Fan,	16	4.	4.	100		Guibal,	Steam,	8	63,840	42,615	64,350	139
Gowen No. 4,	Slope,	Gaseous,	Fan,	20	7.	6.	95		Guibal,	Steam,	7	53,600	36,800	64,500	64
Tomhicken Colliery:																
Tomhicken,	Drift,	Non-gas.,	Furnace,								2	16,200	9,200	17,100	43
Pardee Brothers and Co., Inc.																
Lattimer Colliery:																
Lattimer No. 1,	Slope,	Non-gas.,	Natural,								*				20
Lattimer No. 3,	Slope,	Non-gas.,	Natural,								*				15
Lattimer No. 8,	Slope,	Gaseous,	Fan,	4	2.6	2.6	240		Guibal,	Steam,	2	30,000	19,000	21,000	88
Lattimer Nos. 9 and 12,	Slope,	Gaseous,	Fan,	16	4.6	4.3	95	1.6	Guibal,	Steam,	8	75,000	60,000	77,000	261
Lattimer No. 11,	Slope,	Non-gas.,	Natural,								*				60
Lattimer No. 22,	Slope,	Non-gas.,	Fan,	6	3.25	1.42	150	1.	Guibal,	Steam,	4	80,000	100,000	102,000	86
Lattimer No. 22,	Slope,	Non-gas.,	Fan,	8	3.23	1.67	145		Sturtevant,	Steam,					
Lattimer No. 24,	Slope,	Non-gas.,	Natural,								*				35
Lattimer No. 26,	Slope,	Non-gas.,	Fan,	6	3.25	1.42	195	1.	Guibal,	Electricity.	2	30,000	25,000	35,000	26
Lattimer No. 27,	Slope,	Non-gas.,	Natural,								*				18
Lattimer No. 17,	Shaft,	Gaseous,	Fan,	6	3.25	1.42	195	1.	Guibal,	Electricity,	4	40,000	33,000	41,000	119

*Robbing. No air measurements taken.

Digitized by Google

TABLE I.—Continued

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
A. Pardee and Co.															
Cranberry Colliery:															
Cranberry No. 1, ...	Slope.....	Gaseous, ..	8 Fans,	16	4.6	4	70	.7	Guibal, ...	Steam,....	4	35,000	45,000	68,000	141
				16	5.4	4	70	.6			4	41,000	53,000	42,000	
Cranberry Nos. 4, 8, 12,	Slope.....	Gaseous, ..	Fan, ...	16	4.10	4	70	.75	Guibal, ...	Steam,.....	4	50,000	47,000	53,000	90
Cranberry No. 6, ...	Slope.....	Gaseous, ..	Fan, ...	16	4.6	4	70	.6	Guibal, ...	Steam,.....	4	30,000	36,000	57,000	205
Cranberry Nos. 5 and 10,	Slope.....	Gaseous, ..	Fan, ...	16	4.10	4	70	1 .6	Guibal, ...	Steam,.....	4	49,000	49,000	56,000	150
C. M. Dodson and Co.															
Beaver Brook Colliery:															
Beaver Brook No. 5, ..	Slope.....	Non-gas..	Natural, ..	16	4.6	4	70	.....	Guibal, ...	.....	4	30,000	40,000	40,000	50
Beaver Brook No. 6, ..	Slope.....	Non-gas..	Fan, ...	16	4.6	4	70	.....	Guibal, ...	Steam,.....	4	30,000	40,000	40,000	50
Beaver Brook No. 10, ..	Slope.....	Non-gas..	Fan, ...	16	4.6	4	70	.....	Guibal, ...	Steam,.....	4	30,000	40,000	40,000	50
Beaver Brook No. 11, ..	Slope.....	Gaseous, ..	Fan, ...	16	4.6	4	70	.....	Guibal, ...	Steam,.....	4	30,000	40,000	40,000	50
Beaver Brook No. 15, ..	Slope.....	Gaseous, ..	Fan, ...	16	4.6	4	70	.....	Guibal, ...	Steam,.....	4	30,000	40,000	40,000	50
Beaver Brook No. 17, ..	Slope.....	Non-gas..	Natural, ..	.....	.....	.....	.....	.....	.....	.....	1	2,000	4,000	4,000	2
Harwood Coal Co.															
Harwood Colliery:															
Harwood No. 1, ...	Slope.....	Non-gas..	Natural, ..	16	4.6	4.8	75	.60	Guibal, ...	Steam.....	.....	.....	.....	.....	22
Harwood No. 4, ...	Slope.....	Gaseous, ..	Fan, ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Harwood No. 12, ...	Slope.....	Non-gas..	Natural, ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Harwood No. 21, ...	Slope.....	Non-gas..	Natural, ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Notes. No air measurements taken.

Digitized by Google

Upper Lehigh Coal Co.															
Upper Lehigh Colliery:															
Upper Lehigh No. 1,†	Slope,...	Non-gas.	Fan, ...	10	3.	2.	70	.....	Guibal, ...	Steam,.....	...	.....	.....	... .	.....
Upper Lehigh No. 2,†			Natural, ..	.....	.....	... ..	.....	.....	.....	.....	....	.....	.....	.....	.....
Upper Lehigh No. 5, ..			Natural, ..	.....	.....	.....	.....	.....	.....	.....	....	.....	.....	.....	24
Upper Lehigh No. 7, New, ...			Fan, ...	10	3.	2.	70	.....	Guibal, ...	Steam,.....	*	.....	.....	.....	20
J. S. Wentz and Co.															
Hazle Brook Colliery:															
Hazle Brook No. 1, ..	Slope,.....	Gaseous, ..	Natural,	.....	.....	.....	.....	.....	.....	.....	4	30,000	25,000	33,000	42
Hazle Brook No. 3, ..	Slope,.....	Non-gas., .									1	10,000	8,000	11,350	13
Hazle Brook No. 5, ..	Slope, ...	Gaseous, .									4	32,000	28,000	33,000	68
Hazle Brook No. 10, ..	Slope,.....	Non-gas., .									1	10,000	9,000	11,000	13
Hazle Brook No. 12, ..	Slope,.....	Non-gas., .									2	10,000	7,500	11,100	14
Harleigh Brookwood Coal Co.															
Harleigh Colliery:															
Buck Mountain, ...	Slope,...	Non-gas.	Fan, ...	12	3.7	3.	90	.5	Guibal, ...	Steam,.....	1	40,000	35,000	45,000	34
Fish Tail, ...			Fan, ...	7	3.6	3.	225	.5	Buffalo, ...	Electricity,	2	40,000	37,000	42,000	40
Spear Point, Wharton,			Natural, ..	.....	.....	.....	.....	.....	.....	.....	1	20,000	18,000	22,000	50
Pond Creek Colliery:															
Pond Creek No. 7, ...	Slope,.....	Non-gas., .	Natural, ..	.....	.....	.....	.....	.....	.....	.....	1	10,000	8,000	12,000	32
Pond Creek No. 8, ...	Slope,.....	Non-gas., .	Fan, ...	8	3.6	3.	90	.4	Buffalo, ...	Electricity,	1	15,000	12,000	16,000	25
M. S. Kemmerer and Co.															
Sandy Run Colliery:															
Sandy Run No. 2, ...	Slope,...	Non-gas., .	Natural, ..	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....	33
Sandy Run No. 5, ...															40
Sandy Run No. 10, ...															12
Hazle Mountain Coal Co.															
Hazle Mountain Colliery:															
Hazle Mountain No. 1,	Slope,.....	Non-gas., .	Fan, ...	16	6.	4.6	72	.....	Guibal, ...	Steam,.....	3	48,400	33,050	50,000	75
Hazle Mountain No. 5,	Slope,.....	Non-gas., .	Fan, ...	16	4.	3.11	85	.....	Guibal, ...	Steam,.....	2	50,000	46,930	50,500	65
Wolf Coal Co.															
Wolf Colliery:															
Wolf No. 3, ...	Slope,.....	Non-gas., .	Fan, ...	6	2.	2.	75	.....	Guibal, ...	Steam,.....	1	14,000	11,000	15,000	9
Thomas R. Reese and Son															
Dusky Diamond Colliery:															
Dusky Diamond, ...	Slope,.....	Non-gas., .	Natural, ..	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....	6

*Robbing. No air measurements taken.
†Idle.

Digitized by Google

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
G. B. Markle and Co.						
Jeddo No. 4,	Luzerne,	A. B. Jessup, General Manager	Jeddo,			Lehigh Valley
Ebervale,						
Jeddo No. 7,						
Highland No. 5,						
Highland No. 2,						
Lehigh Valley Coal Co.						
Hazleton No. 1,	Luzerne,	Thomas Thomas,	Wilkes-Barre,	W. H. Davies,	Hazleton,	Lehigh Valley
Hazleton Shaft,	Luzerne,					
Spring Mountain,	Luzerne,					
Spring Brook,	Carbon,					
Spring Brook Washery,	Carbon,					
Coxe Brothers and Co., Inc.						
Drifton,	Luzerne,	Thomas Thomas,	Wilkes-Barre,	W. H. Davies,	Hazleton,	Lehigh Valley
Eckley,						
Buck Mountain,						
Deringer,						
Gowen,						
Tombicken,						
Eckley Washery,						
Pardee Brothers and Co., Inc.						
Lattimer,	Luzerne,	George W. Barager,	Lattimer Mines,			Lehigh Valley
A. Pardee and Co.						
Cranberry,	Luzerne,	Frank Pardee,	Hazleton,			Lehigh Valley
C. M. Dodson and Co.						
Beaver Brook,	Luzerne,	John J. Turnbach,	Beaver Brook,			L. V. and C. R. of N. J.
Harwood Coal Co.						
Harwood,	Luzerne,	A. A. Drake, General Manager	Hazleton,			Lehigh Valley
Upper Lehigh Coal Co.						
Upper Lehigh,	Luzerne,	T. E. Snyder,	Hazleton,	C. H. Rohland,	Upper Lehigh,	C. R. R. of N. J.
J. S. Wentz and Co.						
Hazle Brook,	Luzerne,	T. E. Snyder,	Hazleton,	C. H. Rohland,	Upper Lehigh,	Lehigh Valley

Digitized by Google

Harleigh Brookwood Coal Co.						
Harleigh, Pond Creek,	Luzerne,	Frank A. Hill,	Pottsville,	I. D. Thomas,	Hazleton,	Lehigh Valley
M. S. Kemmerer and Co.						
Sandy Run,	Luzerne,	M. S. Kemmerer,	Mauch Chunk,	J. P. Powell,	Sandy Run,	C. R. R. of N. J.
Hazle Mountain Coal Co.						
Hazle Mountain,	Luzerne,	W. R. McTurk,	Philadelphia, Pennsylvania Building.	Morton McTurk,	Hazleton,	Lehigh Valley
Wolf Coal Co.						
Wolf,	Luzerne,	Joseph G. Saricks,	Freeland,			Lehigh Valley
Thomas R. Reese and Son						
Dusky Diamond,	Luzerne,	Thomas R. Reese,	Audenried,			Lehigh Valley

Digitized by Google

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
G. B. Markle Co.													
Jeddo No. 4,	Luzerne,	396,543	30,670	2,768	428,981	287	870	1	1	44,575	245,257	.....	50
Ebervale,													
Jeddo No. 7,		279,340	23,028	16,490	318,858	293	252	1	1	450	59,956	.....	15
Highland No. 5,		371,764	26,601	854	399,219	286	591	1	2	24,825	208,824	.....	58
Highland No. 2,		259,070	34,212	10,971	304,253	293	523	.....	2	550	110,843	.....	45
Totals,	.....	1,306,717	114,511	31,083	1,451,311	.....	2,236	3	6	70,400	619,379	.....	168
Lehigh Valley Coal Co.													
Hazleton No. 1,	Luzerne,	212,972	20,339	60,732	294,043	242	624	.....	3	13,500	204,460	.....	42
Hasleton Shaft,	Luzerne,	308,175	84,350	3,737	396,262	243	927	3	5	20,325	246,823	.....	82
Spring Mountain,	Luzerne,	296,216	64,539	5,203	365,958	240	809	2	3	100,750	102,650	.....	56
Spring Brook,	Carbon,												
Spring Brook Washery,	Carbon,	8,689	.....	.....	8,689	59	22	.....	.....	.....	.....	.....	.....
Totals,	.....	826,052	169,228	69,672	1,064,952	.....	2,382	5	11	134,575	553,933	.....	131
Coxe Brothers and Co., Inc.													
Drifton,	Luzerne,	310,962	50,160	5,531	366,642	240	586	.....	4	52,075	96,941	.....	56
Eckley,		251,978	1,478	3,426	256,887	239	245	2	2	4,300	79,922	.....	47
Buck Mountain,													
Deringer,													
Gowen,		236,453	33,201	114	269,768	238	478	.....	4	32,475	151,373	.....	59
Tomhicken,													
Eckley Washery,		9,408	32,065	945	42,418	199	26	.....	.....	.....	.....	.....	.....
Totals,	.....	808,701	116,899	10,026	935,716	.....	1,335	2	10	88,850	328,236	.....	162

Pardee Brothers and Co., Inc. Lattimer,	Luzerne,	567,748	64,000	5,813	637,561	288	1,129	.....	3	600	213,664	.....	80
A. Pardee and Co. Cranberry,	Luzerne,	509,486	70,080	7,031	586,597	277	1,524	3	10	21,000	287,175	.....	160
C. M. Dodson and Co. Beaver Brook,	Luzerne,	361,566	31,000	759	393,325	290	744	2	5	53,125	126,850	.....	66
Harwood Coal Co. Harwood,	Luzerne,	157,213	18,000	1,181	176,394	229	451	.....	2	1,950	51,634	.....	46
Upper Lehigh Coal Co. Upper Lehigh,	Luzerne,	151,864	17,557	2,089	171,510	270	234	.....	1	8,525	46,288	.....	14
J. S. Wents and Co. Hazle Brook,	Luzerne,	116,925	24,374	961	142,260	226	273	1	6	.....	28,967	.....	21
Harleigh Brookwood Coal Co. Harleigh, Pond Creek,	Luzerne,	96,976	12,374	613	109,963	252	283	3	3	3,750	52,775	.....	18
M. S. Kemmerer and Co. Sandy Run,	Luzerne,	84,807	13,068	1,056	98,931	237	244	1	1	.....	12,980	.....	24
Hazle Mountain Coal Co. Hazle Mountain,	Luzerne,	78,036	18,252	900	97,188	184	245	1	4	650	41,872	.....	40
Wolf Coal Co. Wolf,	Luzerne,	6,146	259	.....	6,505	264	13	2	.....	.....	3,266	.....	6
Thomas R. Reese and Son Dusky Diamond,	Luzerne,	.....	406	3,151	3,557	203	9	.....	.....	100	800	.....	1
Grand totals,	.....	5,071,327	670,108	134,335	5,875,770	.....	11,102	23	62	383,525	2,477,819	.....	947

Digitized by Google

TABLE 2.—Part 2.

Names of Operators	County	Number of Boilers: Cylindrical	Number of Boilers: Horse power	Number of Boilers: Tubular	Number of Boilers: Horse power	Number of Boilers: Total horse power	Locomotives: Steam	Locomotives: Air	Locomotives: Electric	Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
G. B. Markle Co.,	Luzerne,	.....	.....	83	10,300	10,300	17	5	12	55	9,925	11	18,321	8,800	5	8
Lehigh Valley Coal Co.,		.....	.....	53	9,220	9,220	9	.....	14	65	8,725	21	19,560	8,600	5	1
Coxe Brothers and Co., Inc.,		.....	.....	49	9,575	9,575	13	6	.....	52	4,855	12	14,400	8,150	1	6
Pardee Brothers and Co., Inc.,		.....	.....	13	4,000	4,000	10	.....	2	35	4,000	2	1,900	.....	.....	2
A. Pardee and Co.,		11	330	26	6,385	6,715	18	.....	.....	76	18,550	15	22,100	7,600	.....	1
C. M. Dodson and Co.,		.....	.....	8	3,600	3,600	2	.....	.....	19	1,440	9	12,100	5,750	.....	1
Harwood Coal Co.,		.....	.....	12	1,800	1,800	3	.....	.....	19	990	5	7,000	5,500	.....	1
Upper Lehigh Coal Co.,		.....	.....	11	2,480	2,480	7	.....	.....	19	2,150	3	3,200	6,200	.....	1
J. S. Wentz and Co.,		.....	.....	10	1,500	1,500	8	.....	.....	16	845	3	5,800	5,800	2	.....
Harleigh Brookwood Coal Co.,		.....	.....	8	1,000	1,000	2	.....	.....	6	600	4	3,600	2,000	.....	.....
M. S. Kemmerer and Co.,		.....	.....	4	890	890	1	.....	.....	8	446	5	1,430	1,420	.....	.....
Hasle Mountain Coal Co.,		.....	.....	10	1,490	1,490	1	.....	.....	14	1,000	2	6,300	2,000	.....	8
Wolf Coal Co.,		.....	.....	2	225	225	.....	.....	.....	3	125	6	300	300	.....	.....
Thomas R. Reese and Son,		.....	.....	1	135	135	.....	.....	.....	2	60	1	.....	.....	.....	.....
Totals,		11	330	270	53,480	53,810	91	11	28	389	58,741	96	111,501	56,629	19	27

*Jeddo tunnel drainage.

Digitized by Google

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside											Outside								Grand total inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	
G. B. Markle Co., ...	Luzerne, ...	8	12	6	555	539	88	35	18	53	322	1,636	1	6	28	91	49	22	10	393	600	2,236
Lehigh Valley Coal Co., ...	Luzerne, ... Carbon, ...	9	23	....	614	254	63	16	22	260	396	1,657	....	4	52	84	24	72	14	475	725	2,382
Coxe Brothers and Co., Inc., ...		4	17	....	473	115	89	10	11	38	100	857	....	5	34	48	14	27	10	340	478	1,335
Pardee Brothers and Co., Inc., ...		2	11	2	405	135	33	1	1	51	89	730	1	4	38	55	31	18	8	244	399	1,129
A. Pardee and Co., ...		6	11	....	417	353	73	41	18	48	52	1,019	....	2	69	71	27	21	3	312	505	1,524
C. M. Dodson and Co.,		1	4	1	167	190	43	7	7	40	30	490	1	1	22	33	41	8	5	143	254	744
Harwood Coal Co., ..		1	5	....	140	109	19	....	6	17	5	302	1	3	20	21	11	4	5	84	149	451
Upper Lehigh Coal Co., ...		1	1	....	27	27	9	....	2	9	16	92	1	2	9	39	12	3	3	73	142	234
J. S. Wentz and Co.,	Luzerne, ...	1	2	....	56	23	16	....	4	48	.....	150	...	1	9	26	20	2	2	63	123	273
Harleigh Brookwood Coal Co., ...		2	2	....	63	49	15	5	7	28	10	181	1	2	12	11	22	7	2	45	102	283
M. S. Kemmerer and Co., ...		1	2	....	61	55	10	4	3	7	.....	143	1	1	8	13	22	27	2	28	101	244
Hazle Mountain Coal Co., ...		1	2	....	50	31	18	4	5	49	.....	160	1	2	6	8	6	10	2	50	85	245
Wolf Coal Co., ...		1	....	....	4	2	1	....	1	....	.....	9	1	1	....	1	....	....	1	.....	4	13
Thomas R. Reese and Son, ...		1	....	....	2	3	....	....	....	....	.....	6	....	....	....	1	....	....	....	2	3	9
Totals, ...	.....	39	92	9	3,034	1,885	477	123	105	642	1,020	7,432	9	34	307	501	279	221	67	2,252	3,670	11,102

Digitized by Google

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
G. B. Markle Co.,	Luzerne,	26	24	21	23	25	24	25	25	25	24	23	25	290
Lehigh Valley Coal Co.,	Luzerne,	23	20	14	22	22	23	19	17	19	22	21	19	242
	Carbon,													
Coxe Brothers and Co., Inc.,		23	20	14	22	23	23	18	17	19	21	21	19	239
Pardee Brothers and Co., Inc.,		25	24	23	25	23	25	24	25	25	24	23	24	283
A. Pardee and Co.,		26	23	13	23	24	25	23	24	25	25	23	24	277
C. M. Dodson and Co.,		26	24	26	24	26	25	26	16	23	26	24	24	290
Harwood Coal Co.,		22	20	17	18	19	18	20	20	18	20	18	19	229
Upper Lehigh Coal Co.,		26	21	20	22	24	25	21	20	22	23	22	24	270
J. S. Wentz and Co.,	Luzerne,	17	16	17	18	19	20	19	19	19	20	19	24	228
Harleigh Brookwood Coal Co.,		24	20	19	13	14	19	26	23	22	25	24	23	252
M. S. Kemmerer and Co.,		22	21	13	18	20	19	19	19	21	23	20	22	237
Hazle Mountain Coal Co.,		19	14	13	16	15	15	15	16	15	15	15	16	184
Wolf Coal Co.,		25	23	16	19	26	25	21	19	21	25	23	21	264
Thomas R. Reese and Son,		20	20	11	20	15	18	19	20	20	20	19	10	203

Digitized by Google

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 9	Andrew Yoursheck,	Slavonian,	Miner,	45	M.	1	6	Pond Creek,	Luzerne,	Instantly killed by fall of coal in gangway while making repairs.
	John Pecheck,	Austrian,	Laborer,	22	S.	....	....			
Feb. 13	Joseph Kumminski,	Polish,	Patcher,	23	S.	....	....	Hazleton Shaft,		Fatally injured between top of car and roof on gangway.
March 25	Pasco Glasco,	Italian,	Laborer,	21	S.	....	....	Harleigh,		Instantly killed by fall of coal at face of robbing.
April 22	Steve Swatloski,	Polish,	Laborer,	20	S.	....	....	Spring Mountain,		Instantly killed by fall of slate on gangway near face.
May 8	Michael Linn,	Polish,	Laborer,	52	M.	1	5	Wolf,		Fatally injured by being struck by wheel from runaway car down slope.
June 13	James Marko,	Polish,	Laborer,	24	S.	....	....	Highland No. 5,		Fatally injured between buggy top and roof in breast.
14	John Woiden,	Polish,	Miner,	33	M.	1	3	Jeddo No. 7,		Instantly killed by fall of coal at face of robbing.
21	Stanley Rollins,	Lithuanian,	Miner,	55	M.	1	2	Spring Mountain,		Fatally injured by fall of slate in breast.
	Rock Formica,	Italian,	Miner,	24	M.	1	4	Beaver Brook,		Fatally injured by blast in breast caused by cutting squib.
24	Anthony Saphor,	Slavonian,	Laborer,	33	M.	1	6	Sandy Run,		Instantly killed by fall of rock while sinking slope.
July 7	Joseph Stefanik,	Polish,	Miner,	24	S.	....	....	Jeddo No. 4,		Fatally injured by blast in breast.
14	Andro Shrader,	Slavonian,	Miner,	28	M.	1	1	Hazle Brook,		Instantly killed by fall of coal from rib of gangway.
Aug. 11	John Demski,	Polish,	Miner,	53	S.	....	....	Hazle Mountain,		Instantly killed by fall of slate in breast.
Sept. 4	Frank Gladgosky,	Hungarian,	Chargeman,	38	M.	1	....	Eckley,		Fatally injured by explosion of powder on stripping. Outside.
	John Hooskle,	Hungarian,	Laborer,	35	M.	1	....			
10	August Yeager,	American,	Miner,	46	M.	1	....	Cranberry,		Fatally injured by fall of slate on gangway while making repairs.
18	Andrew Moyles,	American,	Laborer,	33	M.	1	5	Wolf,		Instantly killed by runaway car on slope when hitching staple of car broke.
20	Anthony Schulrs,	Polish,	Miner,	33	S.	....	....	Beaver Brook,		Fatally injured by fall of slate in breast.
24	John Peters,	American,	Hitcher,	26	S.	....	....	Cranberry,		Fatally injured between rib and cars at top of inside slope.
Oct. 10	John Jubin,	American,	Driver,	27	M.	1	1	Hazleton Shaft,		Instantly killed by derailed car on gangway.
Dec. 1	Frank Lipko,	Slavonian,	Miner,	24	M.	1	1	Hazleton Shaft,		Instantly killed by fall of coal in breast.
24	Philip Mader,	German,	Laborer,	46	M.	1	6	Cranberry,		Instantly killed by being run down by loaded gondola below breaker. Outside.

Digitized by Google

TABLE 5.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Nov. 14	Adam Witcofsky, ...	Polish,.....	Miner, ...	30	M.	Hazle Mountain, ...	Luzerne, ...	Ankle dislocated by prop falling upon him in gangway.
26	Frank Bushel, ...	Italian,.....	Miner.	23	M.	Harleigh, ...		Face and chest lacerated by blast.
Dec. 1	Mike Donish, ...	Slavonian,..	Driver, ...	18	S.	Spring Mountain, ...		Head lacerated by flying coal from shot in breast.
	Peter Papus, ...	Slavonian,..	Runner, ...	28	M.	Cranberry, ...		Hand injured by sprag while in the act of spragging car on run.
2	John Lawrence, ...	Slavonian,..	Oiler, ...	17	S.	Cranberry, ...		Head lacerated and body bruised by falling under car on gangway.
9	Joseph Ketchnofski, ..	Polish,.....	Miner, ...	29	M.	Cranberry, ...		Head lacerated by fall of coal in breast.
	George Holessa, ...	American,..	Motor runner, ...	19	S.	Hazleton No. 1, ...		Head injured by falling on truck.
19	Peter Kokenda, ...	Slavonian,..	Laborer, ...	18	S.	Hazle Brook, ...		Leg fractured by bale of hay falling on him from wagon. Outside.
23	Anthony Wysocki, ...	Polish,.....	Miner, ...	39	M.	Highland No. 2, ...		Face and hands burned by explosion of gas in breast.
	Toney Kisciec, ...	Polish,.....	Laborer, ...	30	M.			
24	Felix Vashalis, ...	American,..	Coal loader, ...	19	M.	Drifton, ...		Arm fractured by falling off loaded gondola below breaker. Outside.
	Christ Miller, ...	American,..	Mine foreman, ...	54	M.	Tombicken, ...		Hip bruised by falling from lumber pile to tracks. Outside.
31	John Fendrick, Jr., ..	Polish,.....	Miner, ...	40	M.	Cranberry, ...		Body bruised by prop falling on him in breast.

Digitized by Google

CONDITION OF COLLIERIES

G. B. MARKLE COMPANY

Jeddo No. 4 and Ebervale Collieries.—Ventilation, roads, drainage d condition as to safety good.
Jeddo No. 7 Colliery.—Nos. 1 and 3 Slopes: Ventilation, roads, ainage and condition as to safety good.
Highland Nos. 2 and 5 Collieries.—Ventilation, roads, drainage d condition as to safety good.

LEHIGH VALLEY COAL COMPANY

Hazleton No. 1, Hazleton Shaft, Spring Mountain and Spring ook Collieries.—Ventilation, roads, drainage and condition as to fety good.

COXE BROTHERS AND COMPANY, INCORPORATED

Drifton, Deringer, Gowen and Tomhicken, Eckley and Buck Moun- n Collieries.—Ventilation, roads, drainage and condition as to fety good.

PARDEE BROTHERS AND COMPANY, INCORPORATED

Lattimer Colliery.—Ventilation, roads, drainage and condition as safety good.

A. PARDEE AND COMPANY

Cranberry Colliery.—Ventilation good; roads and drainage fair; ndition as to safety good.

C. M. DODSON AND COMPANY

Beaver Brook Colliery.—Ventilation, roads and drainage fair; ndition as to safety good.

HARWOOD COAL COMPANY

Harwood Colliery.—Ventilation, roads and drainage fair; condi- n as to safety good.

UPPER LEHIGH COAL COMPANY

Upper Lehigh Colliery.—Ventilation, roads, drainage and condi- n as to safety good.

J. S. WENTZ AND COMPANY

Hazle Brook Colliery.—Ventilation, roads and drainage fair; con- ion as to safety good.

HARLEIGH BROOKWOOD COAL COMPANY

Harleigh Colliery.—Buck Mountain Slope: Ventilation, roads, inage and condition as to safety good.
Spear Point and Wharton Slopes: Ventilation fair; roads and inage good; condition as to safety good.

Digitized by Google

material amounted to about 1,000,000 cubic yards. Two steam shovels were employed in loading coal and six shovels in removing cover. Thirty steam locomotives and three hoisting planes are required to remove material from the stripping pit.

Highland No. 5 Colliery.—Diamond drilling has been continued to prove overlying veins.

Two tunnels, 100 feet long, and two rock holes, 150 feet long, from Buck Mountain vein to Gamma vein, were driven for the purpose of developing the Gamma vein, which is thin and irregular.

A portion of the old Jeddo No. 3 slope has been transformed into a plane for the lowering of coal from the east Buck Mountain gangway, and robbing has been started.

A tunnel from No. 8 to No. 8 vein through the saddle, 400 feet long, for the purpose of developing No. 8 vein, and a tunnel from No. 8 vein to No. 9 vein, 80 feet long, were driven for the purpose of developing No. 9 vein.

No. 11 vein was opened by rock holes from No. 10 and mined out.

An engine installed at top of tunnel D dip to develop coal in small synclinal.

Partly completed the remodelling of the entire breaker, installing complete new machinery throughout.

Installed an 18-ton revolving Bucyrus steam shovel for loading stock banks.

Erected a conveyor for stocking prepared coal formerly stocked at tidewater.

Partly completed a new building for colliery office, warehouse and first-aid hospital.

A brick washhouse for miners was completed.

Put a new 18-ton Vulcan saddle tank locomotive into service.

Highland No. 2 Colliery.—A new central pump room and a combined haulage and drainage tunnel, 1,800 feet long between Nos. 1 and 2 mines have been completed. The rock from this tunnel was stowed in breasts preparatory to robbing.

A rock sump 8 by 1 by 240 feet, and a rock pump room 15 by 20 by 157 feet have been completed.

A rock columnway has been driven from foot of slope A to first level, and in coal from first level to surface. This is in connection with pumping concentration.

Four Buck Mountain breasts have been driven to surface, and are now used for storing prepared coal formerly stocked at tidewater. Coal is dumped from railroad cars into breasts and the coal reloaded on the gangway for hoisting to breaker for re-preparation.

Six breasts under No. 1 village have been filled with breaker slate, preparatory to robbing the pillars.

Compound gearing attached to steamboat rolls to reduce speed.

Installed a 14 by 14¼ by 14-inch air compressor for the purpose of driving rock slope.

A combined office, warehouse and first-aid hospital building is being erected, also a washhouse for miners.

Highland No. 6 Slope: Lehigh Valley cars with capacity for 60,000 pounds, have been used for coveying unprepared mine coal to the Highland No. 5 breaker.

All gangways have been finished east and west to the barrier pillars, and robbing has been begun.

Digitized by Google

One oil burning steam locomotive installed to replace mule haulage.

The powder house was placed in a more protected position.

Additional surface drainage canals were constructed to divert surface water from cave-ins resulting from robbing.

Jeddo Village: One double dwelling with all modern conveniences erected.

Commenced the erection of an amusement Casino for employes, consisting of a 30 by 60-foot auditorium, double bowling alleys, billiard, card, smoking, reading and meeting rooms. Accommodations are also provided in 22 sleeping rooms, dining room, kitchen, etc., for permanent and transient boarders.

Removed the boilers from the Jeddo water works boiler house, and rebuilt the house for maintenance of one emergency boiler.

LEHIGH VALLEY COAL COMPANY

Hazleton Shaft Colliery.—Inside: A rock tunnel 6 by 6 by 138 feet long was driven south from the third level, East Buck Mountain gangway, south dip, at breast No. 68, with the intention of tapping Stockton water.

A rock tunnel 6 by 6 by 152 feet long was driven south from the third level, East Buck Mountain gangway, south dip, at breast No. 38, with the intention of tapping the Diamond basin water.

A rock tunnel 6 by 6 by 85 feet long was driven south to the Gamma vein from the third level, West Buck Mountain gangway at breast No. 2 for a traveling way from the rock slope pump to the tunnels from which the Stockton and Diamond basin water is to be tapped.

A new duplex condenser pump was installed in No. 40 slope pumping plant.

Outside: A chemical and fire hose house was built and the following buildings made fireproof: Buck Mountain fan, Diamond fan, Primrose fan, No. 5 slope fan, breaker engine house and conveyor house.

A first-aid and hospital room was constructed.

Hazleton No. 1 Colliery.—Inside: A rock tunnel 8 by 12 by 138 feet long was driven from the West Wharton gangway, third level, south dip to the Gamma vein.

A rock tunnel 8 by 12 by 147 feet long was driven from the East Orchard gangway, third level, south dip to the Primrose vein.

A rock tunnel 8 by 12 by 162 feet long was driven from the East Primrose gangway, fifth level, across the synclinal to the Primrose.

A rock tunnel 8 by 12 by 210 feet long was driven from the East Wharton gangway, seventh level, north dip, to the Buck Mountain.

Outside: An addition was built to the carpenter shops for car repairs.

A first-aid and hospital room was constructed.

Spring Mountain Colliery.—Inside: A rock tunnel 8 by 12 by 76 feet long was driven from the West Wharton gangway, No. 4 basin, to the underlap.

Outside: Built a concrete settling tank for ashes, with a conveyor line.

Digitized by Google

Erected electric hoisting engine, together with a tile engine house, at Primrose slope.

Installed an electrically driven, 5-foot Sirocco fan, in a tile house at Primrose slope.

The breaker pump house was made fireproof.

The tender slope hoisting engine was placed on a concrete foundation and a tile engine house erected.

Spring Brook Colliery.—Inside: A concrete overcast was constructed in the East Lykens gangway, No 1 slope.

A new pump room was made in the new Lykens slope No. 1.

Outside: The No. 2 slope hoisting engine was moved a short distance south from its former location and changed from a steam to an electrically driven engine, and a new tile house erected.

The drive on the No. 2 slope fan was changed from steam to electric.

The blacksmith and car repair shop was rebuilt.

COXE BROTHERS AND COMPANY, INCORPORATED

Drifton Colliery.—Erected light and loaded car scales, together with the necessary scale houses; also a tile office, ware, oil and cement house and a new first-aid room at No. 2 slope.

A Bucyrus 24-ton automatic steam shovel was placed in Lattimer stripping.

A conveyor line for silt was erected.

Eckley Colliery.—Outside: A Bucyrus 24-ton automatic steam shovel was placed in No. 6 stripping.

A stripping was started to uncover the coal left under the old D. S. and S. R. R. in No. 8 basin.

A first-aid and hospital room was constructed.

Inside: A rock tunnel, 200 feet long across the synclinal in the West Wharton No. 6 slope was completed.

An air shaft was sunk 78 feet to the saddle between the No. 2 slope and No. 5 slope basins to ventilate the trial slope gangway workings.

Deringer Colliery.—Outside: Erected a tile wash house and a first-aid and hospital room.

The wooden loco track bridge between Deringer and Gowen was replaced with one of steel on a concrete foundation.

A 24-ton automatic steam shovel was placed in the Deringer stripping.

Inside: A rock tunnel 8 by 12 by 228 feet long was driven from 9 East gangway to the Gamma veins.

PARDEE BROTHERS AND COMPANY, INCORPORATED

Lattimer Colliery.—A tunnel 7 by 11 feet, 50 feet in length, was driven south off No. 12 slope at an elevation of 1,198 feet to connect with the Mammoth vein workings off slope No. 10.

A tunnel 7 by 11 feet, 50 feet in length, was driven south from the counter gangway in the Gamma vein slope No. 12 to the Mammoth vein gangway off slope No. 10, elevation 1,198 feet.

A tunnel 7 by 9 feet, 50 feet in length, was driven south off the No. 9 muleway at breast No. 19 to the East Wharton counter gangway, elevation 1,368 feet.

Digitized by Google

A tunnel 7 by 9 feet, 25 feet in length, was driven south from the West Gamma counter gangway from slope No. 8 to the stripping to take what coal remains in No. 3 tunnel basin.

A tunnel 7 by 9 feet, 95 feet in length, was driven south from the third lift east gangway off slope No. 22 to connect with the West Buck Mountain gangway from the back basin.

A tunnel 7 by 9 feet, 137 feet in length, was driven north from the third lift west gangway off slope No. 22 to prove for the underlying Alpha vein.

A new motor house 13 by 30 feet was made in the rock between the Gamma and Buck Mountain veins at the foot of No. 9 mule-way.

A rock hole was driven from the Buck Mountain vein slope No. 8 to the stripping, Carter's basin, and a 54-inch steam driven fan placed over it.

A rock hole was driven from the Gamma vein to the basin of the Wharton vein on the west side slope No. 9.

An air-shaft was sunk to the face of breast No. 60, on the west gangway second lift slope No. 22.

A six-foot steam driven fan was placed over slope B.

A six-foot steam driven fan was erected over the shaft in the top split of the Alpha vein at slope No. 22.

A club room and first-aid building 18 by 42 by 10 feet was constructed for the convenience of the employes.

A steam heated storm shed 247 by 28 by 7 feet was constructed north of the canal at No. 4 breaker to store what coal remains unhoisted at the breaker during the cold weather.

Two cast iron grooved drums were placed on No. 9 engine, the one being equipped with friction clutch and adjustable to hoist from No. 10 and No. 12 levels.

A new elevator was erected on the north side of No. 4 breaker to replace a long conveyor line.

The run of mine conveyor line plane at No. 4 breaker was entirely rebuilt of long leaf yellow pine replacing the old hemlock timbers of which it was originally constructed. All the work was done while the breaker was in operation.

A wood tank with a capacity of 100,000 gallons was erected on the ridge south of town into which the water is pumped from the reservoirs and which gives ample pressure at all times for colliery and fire purposes.

A new twenty-ton Porter locomotive was added to the outside equipment.

A new Webster class EC feed-water heater and purifier and two new Imperial type 10 Ingersoll-Rand air compressors were installed in the power house at No. 4 breaker to replace three smaller machines.

Milnesville: The Milnesville shaft was completed to the third lift.

A tunnel 7 by 11 feet, 245 feet in length, was driven from the shaft north to second level gangway in the Wharton vein.

The tunnel at the foot of the shaft was extended south 100 feet.

The drainage tunnel was extended 500 feet.

The tunnel 7 by 9 feet, 23 feet in length, was driven north from the stripping to the Gamma vein.

Digitized by Google

A rock hole was driven from the second to the first split of the Buck Mountain vein on the first lift at the shaft.

A rock hole was driven from the Gamma to the Wharton vein and a hole driven out to the stripping east of No. 7 slope to take the Primrose and Holmes veins coal.

A hospital building 10 by 14 feet was built at the head of the shaft.

A new Welsh safety apparatus has been placed on the electric hoist at the shaft.

A tunnel 7 by 9 feet was driven north 375 feet from No. 2 stripping at Hollywood which cut several of the underlying veins.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in the Young Men's Christian Association Building, Hazleton, April 22 and 23. The Board of Examiners was composed of David J. Roderick, Mine Inspector, Hazleton; John J. Turnbach, Superintendent, Beaver Brook; Frederick Young, Miner, Hazleton; James North, Miner, Drifton.

The following persons passed a satisfactory examination and were granted certificates:

MINE FOREMEN

John D. Williams, Beaver Brook; Daniel Jenkins, Audenried; Joseph Barber, John E. Davis, Lansford; William McGinley; Edward Denneny, Drifton; Patrick C. O'Donnell, Dennis J. Ferry, Henry Stark, Freeland; James Crabtree, William F. Purdy, Hazleton.

ASSISTANT MINE FOREMEN

Peter Harkins, Harleigh; Howard J. Monroe, Lattimer; Richard Dudley, Sandy Run; James G. Breslin, Jeddo; Joseph Taylor, Henry W. Sube, Audenried; John Dougherty, McAdoo; Stephen J. Stevens, Robert J. Cooper, Summit Hill; James E. Coll, Lansford; James H. Buchman, Michael Murrin, John J. Brogan, John Boyle, John J. Bonner, Charles J. Gallagher, Freeland; Sheldon P. Williams, Robert Gill, James Horn, James D. Taylor, James Kennedy, William H. Marshall, James Bray, Joseph McCoy, Richard Jefferson, Hazleton.

Digitized by Google

TWELFTH DISTRICT

SCHUYLKILL COUNTY

Mahanoy City, Pa., February 18, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor of transmitting herewith my annual report as Inspector of Mines for the Twelfth Anthracite District, for the year ending December 31, 1913.

The report contains statistics relative to production, number of days worked, employes, accidents and the condition of the collieries.

Respectfully submitted,

P. C. FENTON,
Inspector.

Digitized by Google

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Philadelphia and Reading Coal and Iron Co.,	15	7	22	15	2	17	179,398	179,898	4,137	1,807	5,944	276	258	276	903
	8	.....	8	3	3	6	59,283	168,080	769	296	1,065	96	.....	256	99
Lehigh Valley Coal Co.,	23	7	30	18	5	23	137,946	176,284	4,906	2,103	7,009	213	300	273	421
Totals and averages for district, ...															

Digitized by Google

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	....	....	....	....	1	....	1	....	....	....	....	....	2	8.70
Falls of slate,	....	....	....	2	2	1	....	....	....	1	....	....	6	26.09
Falls of roof,	....	....	....	1	....	1	....	....	....	....	....	1	3	13.04
Mine cars,	2	1	....	....	....	....	....	....	1	....	....	1	5	21.74
Explosions of gas,	1	1	....	....	....	....	....	....	....	1	....	....	3	13.04
Rush of coal,	1	....	....	....	2	....	....	....	....	....	....	....	3	13.04
Struck by rope,	....	....	1	....	....	....	....	....	....	....	....	....	1	4.35
Totals,	4	2	1	3	5	2	1	....	1	2	....	2	23	100.00
Causes of Accidents Outside														
Cars,	....	....	1	1	2	....	1	....	....	....	....	....	5	71.42
Machinery,	....	....	1	....	....	1	....	....	....	....	....	....	2	28.57
Totals,	....	....	2	1	2	1	1	....	....	....	....	....	7	100.00
Grand totals inside and outside,	4	2	3	4	7	3	2	....	1	2	....	2	30	.....

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	1	....	....	....	....	....	1	....	....	1	....	1	4	22.22
Falls of slate,	....	....	....	1	....	....	....	....	....	....	....	....	1	5.56
Falls of roof,	....	....	....	....	....	....	....	....	....	....	....	1	1	5.56
Mine cars,	....	....	....	....	....	1	1	....	....	....	2	....	4	22.22
Explosions of gas,	1	....	....	....	....	1	....	....	....	....	....	....	2	11.11
Explosions of powder and dynamite,	....	....	....	1	....	....	....	....	....	....	....	....	1	5.56
Blasts, premature and otherwise,	1	....	....	1	....	....	....	....	1	....	....	....	3	16.66
Caught in guard rail,	....	....	....	....	....	....	....	....	1	....	....	....	1	5.56
Cause unknown,	....	....	....	....	....	....	....	....	....	....	....	1	1	5.55
Totals,	3	....	....	3	....	2	2	....	2	1	2	3	18	100.00
Causes of Accidents Outside														
Cars,	....	....	....	....	....	....	....	1	1	1	....	2	5	100.00
Totals,	....	....	....	....	....	....	....	1	1	1	....	2	5	100.00
Grand totals inside and outside,	3	....	....	3	....	2	2	1	3	2	2	5	23	.....

Digitized by Google

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Area of furnace bars in square feet	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Philadelphia and Reading Coal and Iron Co.																
Ellangowan Colliery:																
Ellangowan,	Slope,	Gaseous,	Fan,	20	6.6	6.0	80	1.4	Guibal,	Steam,	....	10	78,419	9,900	80,000	198
Ellangowan,	Shaft,	Gaseous,	Fan,	15	7.0	6.6	76	.5	Guibal,	Steam,	....	7	90,438	7,500	80,947	270
St. Nicholas Colliery:																
St. Nicholas,	Slope,	Gaseous,	Fan,	21	7.0	6.6	90	2.4	Guibal,	Steam,	...	10	47,480	33,040	47,480	135
Suffolk Colliery:																
Suffolk,	Slope,	Gaseous,	Fan,	18	6.6	5.6	60	1.4	Guibal,	Steam,	....	5	36,162	18,637	36,702	76
Suffolk,	Slope,	Gaseous,	Fan,	18	6.6	5.6	60	1.2	Guibal,	Steam,	....	7	52,127	26,625	53,873	81
Maple Hill Colliery:																
Maple Hill,	Shaft,	Gaseous,	Fan,	21	7.0	6.6	75	1.9	Guibal,	Steam,	....	10	70,000	23,660	71,790	250
Maple Hill,	Shaft,	Gaseous,	Fan,	21	7.0	6.6	75	1.9	Guibal,	Steam,	....	10	50,380	24,580	51,280	159
Tunnel Ridge Colliery:																
Tunnel Ridge,	Slope,	Gaseous,	Fan,	21	7.0	6.3	75	2.0	Guibal,	Steam,	....	9	90,246	32,803	99,900	257
Mahanoy City Colliery:																
Mahanoy City,	Slope,	Gaseous,	Fan,	21	7.9	6.6	86	2.0	Guibal,	Steam,	....	10	69,575	22,485	72,265	105
Mahanoy City,	Slope,	Gaseous,	Fan,	12	3.5	3.0	60	1.1	Guibal,	Steam,	....	2	18,120	5,600	18,625	20
South Mahanoy Colliery:																
South Mahanoy,	Slope,	Gaseous,	Fan,	21	7.6	6.3	76	1.5	Guibal,	Steam,	....	8	98,988	65,450	99,808	238

Digitized by Google

Lehigh Valley Coal Co.																	
Primrose Colliery:																	
Primrose,	Slope,	Gaseous,	Fan,	16	4.0	4.6	100	1.5	Gulbal,	Steam,	....	6	78,448	71,782	79,340	57	
Park No. 2 Colliery:																	
Park No. 1,	Slope,	Gaseous,	Fan,	16	4.0	4.5	90	1.5	Gulbal,	Steam,	....	9	46,800	34,340	61,200	76	
Park No. 2,			Fan,	14	4.0	4.0	90	1.3			....	6	52,300	42,590	55,000	93	
Park No. 3,			Fan,	16	5.4	4.5	85	1.5			....	10	76,000	41,600	85,175	139	
Park No. 4,			Fan,	17	3.5	3.0	120	1.5			....						

Digitized by Google

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers: Cylindrical	Number of Boilers: Horse power	Number of Boilers: Tubular	Number of Boilers: Horse power	Number of Boilers: Total horse power	Locomotives: Steam	Locomotives: Air	Locomotives: Electric	Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
Philadelphia and Reading Coal and Iron Co.,	Schuylkill,	.....	.....	124	15,550	15,550	14	15	11	246	34,379	71	44,222	10,998	2	13
Lehigh Valley Coal Co.,	Schuylkill,	.....	.....	29	6,550	6,550	4	.....	5	84	11,688	11	15,000	6,000	1	1
Totals,		.....	.....	153	22,100	22,100	18	15	16	330	46,067	82	59,222	16,998	3	14

Digitized by Google

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	Grand total inside and outside
Philadelphia and Reading Coal and Iron Co.,	Schuylkill,		8	69	....	1,182	941	278	55	15	500	999	4,137	....	12	56	297	302	94	31	1,105	1,807	5,944
Lehigh Valley Coal Co.,...	Schuylkill,		3	20	....	296	205	59	8	12	20	146	769	1	3	18	63	....	5	3	203	296	1,065
Totals,			11	89	....	1,478	1,146	337	63	27	520	1,145	4,906	1	15	74	270	302	99	34	1,308	2,103	7,009

Digitized by Google

TABLE 4.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
May 16	Steve Kisolouski, ...	Lithuanian,	Miner, ...	23	S.	....	...	North Mahanoy	Schuylkill,	Killed by fall of coal at face of gangway.
19	Joseph Micolike, ...	Polish, ...	Laborer, ...	21	S.	....	.	St. Nicholas, .		Internally injured by fall of slate near face of gangway.
	John Kobilko, ...	Russian, ...	Miner, ...	29	M.	1	2	Park No. 2, .		Killed by rush of coal while reopening gangway.
	Simon Youbilick, ...	Russian, ...	Miner, ...	45	M.	1	2			
June 18	Andrew Zubic, ...	Slavonian, .	Feeder, ...	18	S.	....	....	Tunnel Ridge,.		Killed by being caught in machinery in conveyor line near breaker. Outside.
26	Joseph Arbaarhefski, .	Lithuanian,	Laborer, ...	19	S.	....	....	Maple Hill, ...		Killed by fall of rock at face of breast.
	Stiney Hurban, ...	Lithuanian,	Miner, ...	39	M.	1	3	Park No. 2, ...		Fatally injured by fall of slate at face of breast.
July 8	Joseph Oravage, ...	Polish, ...	Laborer, ...	59	M.	1	....	Ellangowan, ..		Fatally injured by being run over by railroad car near breaker. Outside.
17	John Wargo, ...	Lithuanian,	Laborer, ...	23	M.	1	...	Mahanoy City,.		Fatally injured by fall of coal at face of skip.
Sept. 29	Joseph Ougen, ...	Lithuanian,	Miner, ...	41	M.	1	3	St. Nicholas, ..		Fatally injured by being run over by locomotive on gangway.
Oct. 9	Martin McLasavage, .	Lithuanian,	Miner, ...	32	S.	....	....	Tunnel Ridge,.		Fatally injured by explosion of gas at face of breast.
21	Anthony Doresky, ...	Lithuanian,	Laborer, ...	40	S.	....	....	Mahanoy City,.		Killed by fall of top slate at face of skip.
Dec. 12	Anthony Wingus, ...	Polish, ...	Miner, ...	30	S.	....	...	Primrose, ...		Killed by fall of rock at face of gangway.
22	Mike Shakella, ...	Greek, ...	Door boy, ...	19	S.	....	....	Park No. 2, ...		Killed by trip of cars on gangway.

Digitized by Google

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 7	Elick Anderson, ...	Irish, ...	Starter, ...	39	S.	Tunnel Ridge, ...	Schuylkill, ..	Injured by premature blast at battery.
9	William O'Brien .....,	American, ..	Miner, ...	52	M.	Maple Hill, ...		Injured by fall of coal at face of breast.
23	Charles Benddiski, ...	Lithuanian.	Miner, ...	50	M.	Maple Hill, ...		Injured by explosion of gas at face of breast.
April 4	Mike Erasko, ...	Lithuanian,	Miner, ...	32	M.	St. Nicholas, ...		Injured by fall of slate at face of breast.
5	Frank Tracker, ...	Polish, ...	Miner, ...	42	M.	North Mahanoy, ...		Injured by premature blast at face of gangway.
10	Joseph Petrow, ...	Lithuanian,	Laborer, ...	21	S.	Ellangowan, ...		Injured by powder exploding in heading.
June 3	Frank Nebitski, ...	Lithuanian,	Laborer, ...	23	S.	St. Nicholas, ...		Injured by being caught between car and chute on gangway.
	Steve Masko, ...	Slavonian, .	Miner, ...	36	M.	Mahanoy City, ...		Slightly burned by gas in old workings.
July 14	Anthony Butman, ...	Russian, ...	Miner, ...	37	M.	Park No. 2, ...		Injured by being caught between car and rib on gangway.
24	Watdek Duerski, ...	Lithuanian,	Miner, ...	35	M.	North Mahanoy, ...		Injured by fall of coal at face of breast.
Aug. 13	Michael Dugan, ...	Irish, ...	Headman, ...	32	S.	Primrose, ...		Injured by car turning over on him at head of slope. Outside.
Sept. 16	Walter Soroco, ...	Polish, ...	Loader, ...	20	S.	Maple Hill, ...		Injured by foot being caught in guard rail at head of plane.
17	Matt Lokoshis, ...	Lithuanian,	Miner, ...	47	S.	Ellangowan, ...		Injured by premature blast at face of gangway.
19	Benjamin Evans, ...	American, ..	Carpenter, ...	27	S.	Park No. 2, ...		Injured by being caught between cars at foot of plane. Outside.
Oct. 1	John Ferruce, ...	Greek, ...	Runner, ...	24	S.	Maple Hill, ...		Injured by being caught between cars at head of breaker. Outside.
17	Anthony Raslavich, ..	Lithuanian,	Miner, ...	42	M.	Maple Hill, ...		Injured by fall of coal in chute.
Nov. 11	Stiney Bushick, ...	Polish, ...	Driver, ...	18	S.	North Mahanoy, ...		Injured by trip of cars on gangway.
19	Bernard Matthews, ...	American, ..	Spragger, ...	17	S.	Suffolk, ...		Injured by being caught between car and rib on gangway.
Dec. 4	Steve Fulskey, ...	Polish, ...	Laborer, ...	20	S.	Suffolk, ...		Injured by being bumped by mine cars at head of slope. Outside.
5	Clarence Smith, ...	American, ..	Spragger, ...	18	S.	Park No. 2, ...		Injured by wheel of car running over his foot. Outside.
12	Frank Shibovich, ...	Polish, ...	Miner, ...	35	M.	Primrose, ...		Injured by fall of rock at face of gangway.
	Victor Strenkopski, ..	Polish, ...	Miner, ...	30	M.	Suffolk, ...		Injured by fall of coal at face of breast.
26	Dan VanHorn, ...	American, ..	Pumpman, ...	23	S.	Park No. 2, ...		Injured in some way unknown. He was found in the emergency hospital by the assistant foreman with his skull fractured.

Digitized by Google

Digitized by Google

THIRTEENTH DISTRICT

SCHUYLKILL COUNTY

Shenandoah, Pa., February 20, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: In compliance with the anthracite mining laws, I transmit herewith my annual report of the Thirteenth Anthracite District for the year ending December 31, 1913.

Respectfully submitted,

A. B. LAMB,
Inspector.

Digitized by Google

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number em ployed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident Inside	Tons of coal produced per non-fatal accident Inside	Number of employes Inside	Number of employes outside	Total number of employes	Number of employes Inside per fatal accident	Number of employes outside per fatal accident	Number of employes Inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Philadelphia and Reading Coal and Iron Co.,	21	1	22	22	3	25	83,319	79,532	3,224	1,467	4,691	154	1,467	147	489
Susquehanna Coal Co.,	.....	.....	.....	6	.....	6	.....	54,509	373	219	592	.....	.....	62	.....
Thomas Colliery Co.,	1	.....	1	4	.....	4	288,110	72,028	278	213	491	278	.....	70	.....
Harleigh Brookwood Coal Co.,	4	.....	4	.....	.....	.....	43,445	.....	203	232	435	51	.....	.....	.....
Locust Mountain Coal Co.,	.....	1	1	.....	1	1	.....	.....	60	390	450	.....	390	.....	390
Oxford Coal Co.,	.....	1	1	.....	.....	.....	.....	.....	.....	76	76	.....	76	.....	.....
Miscellaneous Companies,	.....	.....	.....	.....	.....	.....	.....	.....	26	118	144	.....	.....	.....	.....
Totals and averages for district, ...	26	3	29	32	4	36	104,228	84,685	4,164	2,715	6,879	160	905	130	679

Digitized by Google

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
uses of Accidents Inside														
ls of coal,	....	....	....	1	....	....	....	3	....	....	....	2	6	23.08
ls of slate,	....	1	....	....	....	....	....	....	....	....	....	....	1	3.85
ls of roof,	....	....	....	1	1	1	....	....	....	....	....	....	3	11.54
s cars,	....	....	1	1	....	1	....	....	....	1	....	....	4	15.38
location by gas, etc.	....	....	1	....	....	....	....	....	....	....	....	....	1	3.84
sts, premature and herwise,	1	....	....	....	2	....	....	....	....	....	....	....	3	11.54
ling into shafts,	....	....	....	....	1	....	....	....	....	....	1	....	2	7.69
ling into slopes, etc.	....	....	....	....	....	1	....	....	....	....	1	1	3	11.54
ick by timber,	1	....	....	1	....	....	....	....	....	....	....	1	3	11.54
Totals,	2	1	2	4	4	3	....	3	....	1	2	4	26	100.00
uses of Accidents Outside														
,	....	1	....	1	....	....	....	....	....	....	....	....	2	66.67
falling,	....	....	....	....	....	....	....	....	1	....	....	....	1	33.33
Totals,	....	1	....	1	....	....	....	....	1	....	....	....	3	100.00
ıd totals inside and tside,	2	2	2	5	4	3	....	3	1	1	2	4	29	.....

BLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
ses of Accidents Inside														
of coal,	1	....	....	....	....	....	....	1	....	1	1	....	4	12.50
of slate,	....	....	....	....	1	....	....	1	....	....	....	....	2	6.25
of roof,	....	....	....	....	....	1	....	....	....	....	....	....	1	3.13
cars,	....	....	....	....	....	....	1	1	....	....	1	3	6	18.75
sions of gas,	3	2	3	....	....	2	....	....	....	....	....	....	10	31.25
sions of powder dynamite,	....	....	....	....	....	....	....	....	....	....	....	1	1	3.13
s, premature and rwise,	....	....	....	1	....	....	....	....	....	....	1	....	2	6.25
ed at batteries,	....	....	1	....	....	....	....	....	....	....	1	....	2	6.25
by timber,	1	....	....	....	....	1	....	....	....	....	....	....	2	6.25
rolled on him,	1	....	....	....	....	....	....	....	....	....	....	....	1	3.12
alling	....	....	....	....	....	1	....	....	....	....	....	....	1	3.12
Totals,	6	2	4	1	1	5	1	3	....	1	4	4	32	100.00
es of Accidents Outside														
	....	....	....	....	....	....	....	....	....	....	2	....	2	50.00
by timber,	....	....	....	....	....	....	1	....	....	....	....	....	1	25.00
k by stand pipe,	....	....	....	....	....	....	....	....	1	....	....	....	1	25.00
Totals,	....	....	....	....	....	....	1	....	1	....	2	....	4	100.00
totals inside and ide,	6				1	5	2	3	1	1	6	4	36	.....

Digitized by Google

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Area of furnace bars in square feet	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Philadelphia and Reading Coal and Iron Co., West Shenandoah Colliery: West Shenandoah,	Slope,	Gaseous,	2 Fans,	18 21	6.6 7.0	6.0 6.0	70 80	1 8	Guibal,	Steam,	..	13	111,868	68,738	118,998	277
Kohinoor Colliery: Kohinoor,	Shaft,	Gaseous,	Fan,	18	6.0	4.5	75	1.4	Guibal,	Steam,	..	8	53,927	35,265	55,217	155
Turkey Run Colliery: Turkey Run No. 1,	Drift,	Gaseous,	Fan,	21	7.0	4.5	90	3	Guibal,	Steam,	..	17	115,710	53,040	119,810	548
Turkey Run No. 5,	Slope,	Gaseous,	Fan,	21	7.0	4.5	90	3	Guibal,	Steam,	..					
Turkey Run No. 8,	Slope,	Gaseous,	Fan,	8			184	.8	Guibal,	Electricity,	..	1	173,408	116,960	174,101	
Turkey Run No. 2,	Drift,	Non-gas.,	Natural,	.....	.....	.....	.....	.....	.....	.....	..					
Shenandoah City Colliery: Shenandoah City,	Shaft,	Gaseous,	Fan,	21	7.0	6.5	80	2	Reading,	Steam,	..	16	173,408	116,960	174,101	618
Shenandoah City,	Slope,	Gaseous,														
Shenandoah City,	Drift,	Gaseous,	Fan,	12	4.0	.....	80	.....	Guibal,	Steam,	..	1	8,960	5,740	8,960	
Rea Colliery:	Slope,	Gaseous,	Fan,	21	7.0	6.5	80	1.8	Guibal,	Steam,	..	9	52,880	35,860	54,220	221
Shaft,	Shaft,	Gaseous,	2 Fans,	12 12	6.6 6.6	6.0 6.0	80 100	1.6 1.6	Guibal,	Steam,	..	10	78,840	64,196	80,185	319

Digitized by Google

Indian Ridge Colliery:																
Indian Ridge, ...	Shaft,...		2 Fans,	18	6.0	4.5	75	1.1				8	134,534	71,876	142,798	376
				15	6.0	4.5										
Indian Ridge, Primrose,..	Slope,...	Gaseous, ..	Fan, ...	12	4.0	4.0	45	.3	Guibal, .	Steam,.....		2	13,940	9,570	14,706	
Indian Ridge Holmes, ...	Slope,...		Fan, ...	12	4.0	4.0	45	.3				1	15,000			
Knickerbocker Colliery:																
Knickerbocker, ...	Slope,.....	Gaseous, ..	2 Fans, ..	12	4.0	4.0	94	1.8	Guibal, .	Steam..	..	9	64,364	58,939	65,711	294
				18	6.6	6.0	94	1.8								
Gilberton Colliery:																
Gilberton No. 1, ...	Slope,.....	Gaseous, ..	2 Fans, ..	21	7.0	6.0	74	3.5	Guibal, .	Steam,.....	..	10	147,500	97,000	152,500	366
				21	7.0	6.0	74	3.5								
Susquehanna Coal Co.																
William Penn Colliery:																
William Penn, ...	Drift, ...	Non-gas., .	Fan, ...	18	7	9	52	1.6	Guibal, ..	Steam,.....	..	3	42,000	27,000	85,000	373
William Penn, ...	Shaft,.....	Gaseous, ..	Fan, ...	18	7	9	85	2.3	Guibal, ..	Steam,.....	..	5	81,000	54,000	84,000	
William Penn, ...	Shaft,.....	Gaseous, ..	Fan, ...	18	7	9	22	.8	Vulcan, .	Steam,.....	..	2	30,000	21,000	38,000	
Thomas Colliery Co.																
Kehley Run Colliery:																
Kehley Run, Main, ...	Slope,...	Gaseous,	Fan, ...	16	6	5	100	1.5	Guibal, ..	Steam,.....	..	10	85,970	64,970	86,405	228
Kehley Run No. 3, ...			Fan, ...	8	4	3	150	1.6	Blackman,	Steam,.....	..	4	29,125	20,135	29,340	41
Kehley Run No. 4, ...			Natural, ..	.....	.....	.....	.....	.....	.....	.....	..	2	7,385	4,640	7,445	9
Harleigh Brookwood Coal Co.																
Stanton Colliery:																
Stanton Nos. 1 and 2, Buck, ...	Slope,...	Gaseous,	Fan, ...	15	4	4.8	85	2	Guibal, ..	Steam,.....		7	38,500	85,000	89,000	203
Stanton, Skidmore, ...			Fan, ...	15	4	4.8	60	1	Guibal, ..	Steam,.....			26,000		26,600	
Stanton, Four Foot, ...			Fan, ...	12	5	3.9	75	1.2	Jeffrey, ..	Steam,.....			40,000		40,500	
Stanton, Seven Foot, ...			Natural, ..	.....	.....	.....	.....	.....	.....	.....	..	..	.....	.....	.....	.....
Cambridge Coal Co.																
Cambridge Colliery:																
Cambridge No. 1, ...	Drift, ...	Non-gas., .	Natural, ..	.....	.....	.....	.....	.....	.....	.....	..	..	4,500	3,600	4,870	26
Cambridge No. 2, ...	Drift, ...	Non-gas., .	Natural, ..	.....	.....	.....	.....	.....	.....	.....	..	..	3,670	2,540	4,020	
Locust Mountain Coal Co.																
Weston Colliery:																
Weston, ...	Drift, ...	Non-gas., .	Fan, ...	5	6	1.6	1,700	.....	Buffalo Forge.	Electricity,.	..	1	4,400	3,500	4,770	60

Digitized by Google

TABLE 2.—Continued

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives: Number of pounds of powder used	Explosives: Number of pounds of dynamite used	Explosives: Number of pounds of permissible explosives used	Number of horses and mules
Locust Mountain Coal Co.													
Weston,	Schuylkill,	.....	2,500	.....	2,500	210	450	1	1	34,550	30,700	.....	.....
H. H. Smith and Co.													
Hudson Washery,	Schuylkill,	66,280	3,425	.....	69,705	206	39	.....	.....	.....	.....	.....	.....
Oxford Coal Co.													
Oxford Washery,	Schuylkill,	18,855	1,495	.....	20,350	69	76	1	.....	.....	800	.....	1
Grand totals,	.....	2,233,568	213,295	63,069	2,709,920	.....	6,879	29	36	390,625	741,189	106,005	502

Digitized by Google

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers: Cylindrical	Number of Boilers: Horse power	Number of Boilers: Tubular	Number of Boilers: Horse power	Number of Boilers: Total horse power	Locomotives: Steam	Locomotives: Air	Locomotives: Electric	Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
Philadelphia and Reading Coal and Iron Co.,	Schuylkill,	.....	.....	116	14,850	14,850	18	7	7	237	30,763	21	31,411	9,068	4	10
Susquehanna Coal Co.,		.....	.....	15	2,300	2,300	1	.....	.....	20	1,600	.....	1,300	969	.....	1
Thomas Colliery Co.,		.....	.....	13	1,950	1,950	4	.....	.....	13	1,213	4	5,000	4,000	.....	.....
Harleigh Brookwood Coal Co.,		.....	.....	5	1,750	1,750	2	.....	.....	12	2,750	5	7,570	2,830	.....	2
Cambridge Coal Co.,		.....	.....	4	600	600	1	.....	.....	7	300	.....	.....	.....	.....	.....
Locust Mountain Coal Co.,		.....	.....	6	250	250	11	.....	1	.....	.....	.....	.....	.....	.....	2
H. H. Smith and Co.,		.....	.....	3	375	375	.....	.....	.....	7	244	.....	.....	.....	.....	.....
Oxford Coal Co.,		.....	.....	4	500	500	5	.....	.....	5	375	.....	.....	.....	.....	.....
Totals,	.....	.....	.....	166	22,475	22,475	42	7	8	301	37,245	30	45,281	16,897	4	15

Digitized by Google

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 11	Anthony Luto, ...	Polish, ...	Miner, ...	34	M.	1	2	Shenandoah City.		Killed by falling timber knocked out by derailed car.
22	Stiney Savage, ...	American,...	Miner, ...	28	S.	....	....	Kehley Run, ..		Killed by blast.
Feb. 10	Winfield Major, ...	American,...	Patcher, ...	15	S.	....	....	Oxford Washery		Killed by falling under car and being run over. Outside.
11	Thomas Sminco, ...	Greek, ...	Laborer, ...	20	S.	....	....	Turkey Run, ..		Killed by fall of slate near face of gangway.
March 7	William Kolonofsky, .	Lithuanian,	Miner, ...	40	M.	1	2	Draper, ...		Killed by being suffocated by after-damp.
27	Joseph Alberta, ...	Lithuanian,	Laborer, ...	21	S.	....	....	Turkey Run, ..		Killed by cars on slope.
April 3	Andrew Bisco, ...	Greek, ...	Miner, ...	58	M.	1	3	West Shenandoah.		Killed by falling timber on manway.
5	George Comevousky, ..	Lithuanian,	Miner, ...	29	M.	1	....	Knickerbocker,		Killed by fall of coal in breast.
12	Peter Stremick, ...	Lithuanian,	Top man, ...	21	S.	....	....	Knickerbocker,		Fatally injured by having heel crushed under car. Outside.
16	James Farrell, ...	American,...	Driver, ...	18	S.	....	....	Gilberton.		Killed by being crushed between car and timber on gangway.
19	William Williams, ...	American,...	Door boy, ...	18	S.	....	....	Draper, ...		Killed by fall of rock.
May 7	Charles Lobanovage, .	Lithuanian,	Miner, ...	50	M.	1	1	Gilberton, ...		Instantly killed by blast.
14	George Burka, ...	Lithuanian,	Miner, ...	27	M.	1	1	Shenandoah City.	Schuylkill, ..	Killed by fall of rock on gangway.
20	Adam Vincavage, ...	Polish, ...	Laborer, ...	30	S.	....	....	Shenandoah City.		Killed by falling off cage down shaft.
23	William Polinavage, .	Lithuanian,	Miner, ...	25	M.	1	2	Draper, ...		Killed by blast.
June 16	Frank Slovohavage, .	Polish, ...	Miner, ...	43	M.	1	3	Turkey Run, ..		Killed by fall of rock.
17	George Goodhead, ...	English, ...	Roadman, ...	60	S.	....	....	West Shenandoah.		Killed by being caught between door and cars.
24	Frank Pusnock, ...	Polish, ...	Miner, ...	30	M.	1	2	Knickerbocker,		Killed by falling down manway.
Aug. 13	Frank Motzk, ...	Austrian, ...	Laborer, ...	30	M.	1	2	Stanton, ...		Killed by fall of coal in gangway.
21	Anthony Vocolavage, .	Lithuanian,	Miner, ...	37	S.	....	....	Stanton, ...		Killed by fall of coal at face of breast.
25	Anthony Morrias, ...	Polish, ...	Miner, ...	35	M.	1	2	Turkey Run, ..		Killed by fall of coal near face.
Sept. 21	Oscar Hahn, ...	American,...	Laborer, ...	26	S.	....	....	Weston, ...		Killed by falling from plank while hoisting timber at breaker. Outside.
Oct. 20	Elmer Cobley, ...	American,...	Driver, ...	23	M.	1	3	Stanton, ...		Killed between car and chute.
Nov. 11	Martin Glegura, ...	Polish, ...	Laborer, ...	27	S.	....	....	Shenandoah City.		Killed by falling from cage down shaft.

Digitized by Google

Nov.	29	John Grabovage, ...	Hungarian,	Laborer, ...	24	M.	1	2	Stanton, ...	Schuylkill,		Killed by falling from sinking boat to bottom of slope.
Dec.	2	Joseph Pavenus, ...	Lithuanian	Miner, ...	27	M.	1	1	Knickerbocker,			Killed by being struck in stomach by pick handle.
	11	Patrick Sherry, ...	American....	Miner, ...	42	M.	1	1	Draper, ...			Killed by falling down chute to breast.
	12	Charles Yepcavage, ...	Polish, ...	Laborer, ...	28	M.	1	....	Boston Run, ..			Killed by fall of timber on gangway.
	24	John Bielsky, ...	Lithuanian,	Miner, ...	56	M.	1	....	Indian Ridge, .			Fatally injured by fall of coal at face of breast.

Digitized by Google

CONDITION OF COLLIERIES

PHILADELPHIA AND READING COAL AND IRON COMPANY

West Shenandoah, Kohinoor, Turkey Run, Draper, Gilberton, Boston Run, Shenandoah City and Knickerbocker Collieries.—Ventilation, drainage and condition as to safety good.

Indian Ridge Colliery.—Ventilation, drainage and condition as to safety good.

THOMAS COLLIERY COMPANY

Kehley Run Colliery.—Ventilation good; drainage fair; condition as to safety good.

SUSQUEHANNA COAL COMPANY

William Penn Colliery.—Ventilation good; drainage fair; condition as to safety good.

HARLEIGH BROOKWOOD COAL COMPANY

Stanton Colliery.—Ventilation good; drainage fair; condition as to safety good.

CAMBRIDGE COAL COMPANY

Cambridge Colliery.—Ventilation good; drainage fair; condition as to safety good.

IMPROVEMENTS

PHILADELPHIA AND READING COAL AND IRON COMPANY

West Shenandoah Colliery.—Made slope 403 feet through rock on pitch of 20 degrees below Buck Mountain vein to develop Sixth lift; tunnel 217 feet top split to Seven Foot; airway in Buck Mountain vein 280 feet from Fifth to Sixth lift; No. 11 slush bore hole 218 feet deep to Buck Mountain vein; flume 1,000 feet long for changing creek channel; steam driven rock crusher and slush lines for crushing mine rock and conveying slush to the various bore holes; 43,003 cubic yards of slush ran into this mine in 1913.

Kohinoor Colliery.—Made tunnel from Mammoth to Skidmore 38 feet long; 53,882 cubic yards of slush ran into this mine in 1913.

Turkey Run Colliery.—Made water level tunnel to Primrose vein. 60 feet long; tunnel from Mammoth to Skidmore on water level, 38 feet long; tunnel from Skidmore to Mammoth, West Shenandoah level, 26 feet long.

Shenandoah City Colliery.—Made tunnel from Seven Foot to Bottom split, 43 feet long; tunnel from Skidmore to Seven Foot on Higgins plane, 1,414 feet long; tunnel for landing at foot of Seven Foot plane, 72 feet long; concrete paving in front of breaker, 2,398 square yards.

Boston Run Colliery.—Completed tunnel to Top Split vein from West Bottom split, Fourth lift, near breast No. 18, total length, 245 feet.

Digitized by Google

Hoisting slope was timbered with steel girders resting on concrete walls for a distance of 24 feet from mouth.

A fireproof hospital was built in Bottom Split vein, Fourth lift, 150 feet west of Tender slope.

A fireproof stable was made in Skidmore vein off west rib of main tunnel, Fourth lift.

Draper Colliery.—Completed traffic tunnel, 147 feet between the East Diamond and East Tracy gangways, North dip, Second lift, at No. 14 breast in Diamond gangway; also Second outlet tunnel 76 feet to Gilberton water shaft from East Diamond, South dip gangway, between Nos. 17 and 18 chutes, to East Orchard, South dip gangway, Second lift, and electric hoist and pole line for timberways in Diamond, Tracy and Little Tracy veins.

Indian Ridge Colliery.—Completed tunnel 73 feet from Buck Mountain to Little Buck No. 5 slope; tunnel 50 feet to Primrose from foot of No. 7 slope; tunnel 195 feet through saddle in No. 7, Primrose slope. Change in creek channel overlying Holmes vein 2,605 feet long and flume for 1,300 feet. Built concrete culvert 759 feet long. 135,329 cubic yards of slush ran into mine in 1913.

Knickerbocker Colliery.—Made rock hole to the Primrose vein in basin from First lift. Completed East Holmes gangway, South dip near breast No. 38; total length 117 feet.

Gilberton Colliery.—Completed turnout tunnel 99 feet at head of proposed underground slope in Seven Foot vein; also tunnel 29 feet to Skidmore vein from West Mammoth vein, Fifth lift, 600 feet east of west pillar line and rock hole 32 feet from Seven Foot to Skidmore vein on line of proposed Skidmore slope, 20 feet west of North Laurel Ridge tunnel. Completed electric power line from Draper Colliery generator house to Gilberton Colliery shaft engine house. Completed air tunnel 176 feet from Seven Foot Monkey to Little Buck Monkey, Sixth lift, 50 feet west of Tender slope. New breaker put into operation on November 24.

SUSQUEHANNA COAL COMPANY

William Penn Colliery.—New powder magazine erected. Completed a two-bucket aerial tramway for handling boiler ashes. Equipped Draeger rescue station, with 3 helmet outfits and a pulmotor. Office entirely remodeled. Partially completed new colliery fireproof shops. Erected storage house. Installed new rolls in breaker and seven roller coal shakers: Installed fire alarm and return signal system in breaker; boiler feed water heating system; built fireproof boiler feed water pump house and steel and concrete boiler house. Made 151-yard tunnel.

LOCUST MOUNTAIN COAL COMPANY

Weston Colliery.—On the strippings: Added to equipment three 70-C Bucyrus steam shovels, three 18-B Bucyrus revolving steam shovels, eleven 20-ton Vulcan locomotives, 54 two-way dump cars, four cubic yards; twenty two-way dump cars, 8 cubic yards; 130 steel mine cars, 135 cubic feet; two 40-horsepower portable boilers, one 50-horsepower portable boiler, six 94 Ingersoll-Sargeant tripod rock drills, one 1,000-gallon per minute electric pump, one 400-gallon per minute electric pump, two 30,000-gallon capacity water tanks for fresh water. Built office and warehouse building, combined, car

Digitized by Google

[illegible]	75
[illegible]	38
[illegible]	37
[illegible]	2,302,734
[illegible]	45,388
[illegible]	45,126
[illegible]	2,393,248
[illegible]	.....
[illegible]	.....
Number of persons employed inside of mines,	4,166
Number of persons employed outside,	2,435
Number of fatal accidents inside of mines,	13
Number of fatal accidents outside,	3
Number of non-fatal accidents inside of mines,	37
Number of non-fatal accidents outside,	11
Number of tons produced per fatal accident inside,	256,134
Number of tons produced per fatal accident outside,	1,149,916
Number of tons produced per fatal accident inside and outside,	308,109
Number of persons employed per fatal accident inside,	320
Number of persons employed per fatal accident outside,	828
Number of persons employed per fatal accident inside and outside,	415
Number of persons employed per non-fatal accident inside,	112
Number of persons employed per non-fatal accident outside,	225
Number of persons employed per non-fatal accident inside and outside,	139
Number of wives made widows,	10
Number of children made orphans,	34
Number of steam locomotives used inside of mines,	.....
Number of steam locomotives used outside,	50
Number of compressed air locomotives used inside,	5
Number of compressed air locomotives used outside,	.....
Number of electric motors used inside,	27
Number of electric motors used outside,	.....
Number of fans in use,	27
Number of furnaces in use,	.....
Number of gaseous mines in operation,	27
Number of non-gaseous mines in operation,	10
Number of new mines opened,	.....
Number of old mines abandoned,	1

Digitized by Google

TABLE A

PRODUCTION OF COAL

Names of Operators.	Tons
Lehigh Valley Coal Company,	1,706,235
Philadelphia and Reading Coal and Iron Company,	984,692
Midvalley Coal Company,	304,867
Girard Mammoth Coal Company,	212,756
W. R. McTurk Coal Company,	90,266
Harleigh Brookwood Coal Company,	24,907
Beaver Valley Coal Company,	6,025
Total,	3,329,748

Production by Counties

Schuylkill,	1,911,492
Columbia,	1,084,507
Northumberland,	333,749
Total,	3,329,748

Digitized by Google

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	....	1	....	1	3	....	1	....	....	1	1	....	8
Repairmen,	1	....	....	....	....	....	....	....	....	....	....	....	1
Motor helpers,	....	1	....	....	1	....	....	....	....	....	....	....	2
Machine runners,	....	....	....	1	....	....	....	....	....	....	....	....	1
Laborers,	....	....	....	....	....	....	....	....	1	....	....	....	1
Totals,	1	2	....	2	4	....	1	....	1	1	1	....	13
Outside													
Lokie patchers,	....	....	....	....	....	....	....	....	....	1	....	....	1
Laborers,	1	....	....	....	1	....	....	....	....	....	....	....	2
Totals,	1	....	....	....	1	....	....	....	....	1	....	....	3
Grand totals inside and outside,	2	2	....	2	5	....	1	....	1	2	1	....	16

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	1	....	1	2	1	....	2	2	....	1	5	3	15
Miners' laborers,	1	....	1	1	....	....	3	....	....	1	....	....	7
Drivers and runners,	....	1	....	....	....	1	1	1	....	....	....	1	5
Loaders,	1	....	....	....	....	....	....	1	....	....	....	....	2
Timbermen,	1	....	....	....	....	....	....	....	....	....	....	....	1
Starters,	....	....	....	....	1	....	....	1	....	....	....	....	2
Footmen,	....	....	....	....	1	....	....	....	....	....	....	....	1
Door boys and helpers,	....	....	....	....	....	....	....	....	....	....	....	1	1
Totals,	4	1	2	3	3	1	6	5	....	2	5	5	36
Outside													
Blacksmiths and carpenters,	....	....	....	....	1	....	....	....	....	....	....	....	1
Slatepickers (boys),	....	....	....	....	....	....	....	....	....	1	....	....	1
Laborers,	1	....	....	1	1	1	....	....	....	1	....	1	6
Spraggers,	....	....	....	....	....	....	....	....	1	....	....	....	1
Drivers,	....	....	....	....	....	....	....	....	....	1	....	....	1
Runners,	....	....	....	....	....	....	....	....	....	1	....	....	1
Totals,	1	....	....	1	2	1	....	....	1	4	....	1	11
Grand totals inside and outside,	5	1	2	4	5	2	6	5	1	6	5	6	47

Digitized by Google

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	1	1	....	....	2	....	....	....	....	1	....	....	5
Irish,	1	....	....	....	....	....	....	....	....	....	1	....	2
Polish,	....	....	....	1	1	....	....	....	....	....	....	....	2
Slavonian,	....	....	....	....	1	....	....	....	....	....	....	....	1
Lithuanian,	....	1	....	....	1	....	....	....	....	....	....	....	2
Austrian,	....	....	....	....	....	....	1	....	1	....	....	....	2
Russian,	....	....	....	1	....	....	....	....	....	1	....	....	2
Totals,	2	2	....	2	5	....	1	....	1	2	1	....	16

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
merican,	2	1	....	2	3	....	2	3	1	2	1	3	20
nglish,	....	....	....	....	1	....	....	....	....	....	....	....	1
Welsh,	....	....	....	....	....	....	....	1	....	....	....	....	1
erman,	....	....	....	....	....	....	....	....	....	1	1	....	2
olish,	2	....	....	2	1	....	1	....	....	....	1	....	7
alian,	....	....	....	....	....	....	....	....	....	2	....	1	3
ithuanian,	....	....	1	....	....	1	1	1	....	....	1	....	5
ustrian,	....	....	1	....	....	....	1	....	....	1	....	1	4
ussian,	1	....	....	....	....	1	1	....	....	....	1	1	5
Totals,	5	1	2	4	5	2	6	5	1	6	5	6	48

Digitized by Google

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Lehigh Valley Coal Co.						
Centralia,	Columbia,	Thomas Thomas,	Wilkes-Barre,	H. J. Heffner,	Centralia,	Lehigh Valley
Bayre,	Northumberland.					
Packer No. 2,	Schuylkill,					
Packer No. 3,	Schuylkill,					
Packer No. 4,	Schuylkill,					
Packer No. 5,	Schuylkill,					
Philadelphia and Reading Coal and Iron Co.						
Hammond,	Schuylkill,	W. J. Richards, General Manager.	Pottsville,	Reese Tasker,	Pottsville,	P. and R.
East,	Schuylkill,					
Potts,	Columbia,					
Bear Ridge,	Schuylkill,					
Midvalley Coal Co.						
Midvalley,	Columbia,	T. E. Snyder,	Hazleton,	H. D. Kostenbauder,	Wilburton,	Lehigh Valley
Girard Mammoth Coal Co.						
Girard Mammoth,	Schuylkill,	Timothy Cockill,	Mahanoy City,	William Palmer,	Mahanoy City,	P. and R.
W. R. McTurk Coal Co.						
Girard Bear Ridge,	Schuylkill,	W. R. McTurk,	Philadelphia, 313-314 Pennsylvania Bldg.	E. M. Lamb,	Girardville,	P. and R.
Harleigh Brookwood Coal Co.						
West Bear Ridge,	Schuylkill,	Frank A. Hill,	Pottsville,	John Price,	Shenandoah,	P. and R.
Beaver Valley Coal Co.						
Scotch Valley,	Columbia,	Graffin Cook,	Baltimore, Md.,	William S. Pugh,	Pottsville,	Pennsylvania

Digitized by Google

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Lehigh Valley Coal Co.													
Centralia,	Columbia,	369,590	62,487	5,231	437,308	254	778	5	5	.....	191,475	.....	72
Sayre,	Northumberland,	261,468	68,746	3,535	333,749	248	702	4	7	6,275	175,786	.....	37
Packer No. 2,*	Schuylkill,	131,170	18,840	.....	150,010		249	.....	.....	9,200	48,852	.....	18
Packer No. 3,*	Schuylkill,	192,422	16,850	.....	209,272		281	1	1	12,025	87,297	.....	30
Packer No. 4,	Schuylkill,	115,239	64,590	9,620	189,499	260	518	2	4	66,400	21,548	.....	19
Packer No. 5,*	Schuylkill,	367,580	18,817	.....	386,397		570	3	8	57,150	164,632	.....	27
Totals,	.....	1,437,519	250,330	18,386	1,706,235	.....	3,098	15	25	152,050	634,585	.....	203
Philadelphia and Reading Coal and Iron Co.													
Hammond,	Schuylkill,	322,769	45,244	7,306	375,319	245	781	.....	3	309	68,035	54,719	42
Bast,	Schuylkill,	205,378	54,077	10,207	269,662	255	707	1	6	450	102,138	23,651	98
Potts,	Columbia,	287,466	40,826	8,015	336,307	264	704	.....	4	.....	61,294	48,650	96
Bear Ridge,	Schuylkill,	.....	3,404	.....	3,404	.....	47	.....	1	.....	1,069	.....	7
Totals,	.....	815,613	143,551	25,528	984,692	.....	2,239	1	14	750	232,536	122,020	243
Midvalley Coal Co.													
Midvalley,	Columbia,	265,477	36,500	2,890	304,867	214	561	.....	3	800	173,300	.....	58
Girard Mammoth Coal Co.													
Girard Mammoth,	Schuylkill,	186,856	25,000	900	212,756	264	362	.....	1	48,250	40,380	.....	20

* prepared at Packer No. 4.

Digitized by Google

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside											Outside									Grand total inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	
Lehigh Valley Coal Co., ..	Columbia, ... Schuylkill, ...	15	54	....	701	543	96	41	29	....	629	2,108	1	14	80	141	57	22	14	661	990	3,098
Philadelphia and Reading Coal and Iron Co.	Northumberland, Columbia, ... Schuylkill, ...	5	36	....	240	179	82	44	13	375	475	1,449	....	7	31	105	81	47	12	507	790	2,239
Midvalley Coal Co., ...	Columbia, ...	3	....	6	123	139	19	3	6	57	....	356	1	2	15	22	.16	10	3	136	205	561
Girard Mammoth Coal Co.,...	Schuylkill, ...	1	1	1	26	34	9	....	5	35	..	112	1	1	10	30	40	1	2	165	250	362
W. R. McTurk Coal Co.....	Schuylkill, ...	1	....	....	14	9	1	3	3	15	14	60	1	1	11	28	15	8	2	128	194	254
Harleigh Brookwood Coal Co., ...	Schuylkill, ...	1	....	....	20	13	3	2	2	2	....	43	....	....	....	4	....	....	....	14	18	61
Beaver Valley Coal Co.,.....	Columbia, ...	1	....	....	12	20	2	....	....	3	....	38	1	1	3	3	4	1	1	24	38	76
Totals, ...	.....	27	91	7	1,136	937	212	93	58	487	1118	4,166	5	26	150	333	213	89	34	1635	2,485	6,651

Digitized by Google

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Lehigh Valley Coal Co.,	Columbia, ...													
	Schuylkill, ...	24	22	13	22	26	24	21	18	20	23	22	20	254
	Northumberland, .													
Philadelphia and Reading Coal and Iron Co.,	Columbia, ...													
	Schuylkill, ...	25	21	17	25	26	20	19	16	18	25	23	21	255
Midvalley Coal Co.,	Columbia, ...	25	15	15	17	20	17	17	16	17	19	20	18	214
Girard Mammoth Coal Co.,	Schuylkill, ...	9	21	16	25	24	25	25	24	25	25	23	22	264
W. R. McTurk Coal Co.,	Schuylkill, ...	23	16	5	7	20	18	18	16	17	20	21	20	201
Harleigh Brookwood Coal Co.,	Schuylkill, ...	25	24	24	25	24	25	22	23	25	25	23	23	288
Beaver Valley Coal Co.,	Columbia, ...	7	8	.....	.....	....	.....	....	.....	.....	10	12	6	49

Digitized by Google

TABLE 5.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
June 19	John Chucklo, ...	Russian, ...	Laborer, ...	18	S.	Packer No. 5, ...	Schuylkill, ...	Fingers blown off while picking dynamite cap. Outside.
July 8	Englebert Kleman, ..	American, ...	Driver, ...	18	S.	Potts, ...	Columbia, ...	Jaw fractured by being caught between car and door frame.
9	George Kerner, ...	American, ..	Miner, ...	28	M.	Potts, ...	Columbia, ...	Face and hands burned by explosion of gas.
	Mat Bronzas, ...	Lithuanian,	Miner, ...	29	M.			Face and hands burned by explosion of gas.
16	William Tomashefskie,	Polish, ...	Laborer, ...	19	S.	Scotch Valley, ...	Columbia, ...	Leg fractured by fall of coal at face of gangway.
17	Jacob Daniel, ...	Russian, ...	Laborer, ...	35	M.	Centralia, ...	Columbia, ...	Leg fractured by fall of coal at face of gangway.
18	Steve Hudock, ...	Austrian, ..	Laborer, ...	28	M.	Centralia, ...	Columbia, ...	Arm fractured by coal falling on him while placing timber.
Aug. 4	Arthure Shucker, ...	American, ..	Starter, ...	25	M.	Centralia, ...	Columbia, ...	Leg fractured by door frame torn out by cars.
20	John Iffert, ...	American, ..	Loader, ...	22	S.	Hammond, ...	Schuylkill, ...	Leg fractured by flying iron from bursting air line.
21	George Porter, ...	Lithuanian,	Miner, ...	28	S.	Girard Mammoth, ...	Schuylkill, ...	Hand blown off by explosion of box of dynamite caps.
30	Dan Loyde, ...	Welsh, ...	Miner, ...	53	M.	Hammond, ...	Schuylkill, ...	Leg fractured by old timber falling on him.
	Edward Kellager, ...	American, ..	Driver, ...	20	S.	Sayre.	Northumberland, .	Leg cut and bruised by being bumped between cars.
Sept. 9	Condy Gilday, ...	American, ..	Spragger, ...	17	S.	Sayre, ...	Northumberland, .	Arm fractured by falling off mule. Outside.
Oct. 2	Charles Cilend, ...	Italian, ...	Laborer, ...	28	S.	Girard Bear Ridge, ..	Schuylkill, ...	Arms burned by steam in boiler house. Outside.
13	John Zakalo, ...	American, ..	Driver, ...	19	S.	Sayre, ...	Northumberland, .	Arm and leg fractured by rush of coal in stripping. Outside.
15	William O'Connel, ...	American, ..	Slatepicker, ...	14	S.	Girard Bear Ridge, ..	Schuylkill, ...	Arm fractured by falling in breaker. Outside.
22	Joe. Brown, ...	Italian, ...	Runner, ...	22	S.	Packer No. 4, ...	Schuylkill, ...	Finger cut off by being caught in car wheel with sprag. Outside.

Digitized by Google

Oct.	25	John Andrewchisin,...	Austrian, ..	Miner, ...	34	M.	Packer No. 5, ...	Schuylkill, ...	Face and hands burned by explosion of gas.
	28	Fred Shumber, ...	German, ...	Laborer, ...	30	M.	West Bear Ridge, ..	Schuylkill, ...	Leg fractured by piece of rock rolling on it at face.
Nov.	4	William Morris, ...	Russian, ...	Miner, ...	30	M.	Sayre, ...	Northumberland,.	Arm fractured by fall of coal at face of breast.
	9	James Christ, ...	German, ...	Miner, ...	40	M.	West Bear Ridge, ..	Schuylkill, ...	Leg fractured by falling from top of car.
	13	Matt Noyalaus, ...	Lithuanian,	Miner, ...	28	S.	Hammond, ...	Schuylkill, ...	Leg crushed between cars.
	26	Anthony Dombuskie,..	Polish,.....	Miner, ...	28	S.	Midvalley, ...	Columbia, ...	Face and hands lacerated by premature blast.
	28	James Sweeney, ...	American, ..	Miner, ...	32	M.	Packer No. 5, ...	Schuylkill, ...	Body bruised by being forced down breast manway by water.
Dec.	3	George Foy, ...	American, ..	Door tender, ...	16	S.	Bast, ...	Schuylkill, ...	Body bruised by being caught between car and timber.
	6	Frank Samanchick, ..	Russian, ...	Miner, ...	34	M.	Packer No. 5, ...	Schuylkill, ...	Arm fractured by fall of coal at face of chute.
	12	Yonick Yelko, ...	Austrain, ..	Miner, ...	26	M.	Packer No. 5, ...	Schuylkill, ...	Wrist fractured by falling down chute.
	23	John Kurell, ...	Italian, ...	Laborer, ...	40	S.	Packer No. 4, ...	Schuylkill, ...	Arm lacerated by being caught between car and chain. Outside.
		Robert Calbert, ...	American, ..	Miner, ...	45	M.	Packer No. 5, ...	Schuylkill, ...	Arm fractured by fall of coal at face of breast.
	24	Gomer Barnes, ...	American, ..	Driver, ...	19	S.	Sayre, ...	Northumberland,.	Body bruised by falling under moving car.

Digitized by Google

TABLE 5.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
June 19	John Chucklo, ...	Russian, ...	Laborer, ...	18	S.	Packer No. 5, ...	Schuylkill, ...	Fingers blown off while picking dynamite cap. Outside.
July 8	Englebert Kleman, ..	American, ..	Driver, ...	18	S.	Potts, ...	Columbia, ...	Jaw fractured by being caught between car and door frame.
9	George Kerner, ...	American, ..	Miner, ...	28	M.	Potts, ...	Columbia, ...	Face and hands burned by explosion of gas.
	Mat Bronzas, ...	Lithuanian,	Miner, ...	29	M.			Face and hands burned by explosion of gas.
16	William Tomashefskie,	Polish, ...	Laborer, ...	19	S.	Scotch Valley, ...	Columbia, ...	Leg fractured by fall of coal at face of gangway.
17	Jacob Daniel, ...	Russian, ...	Laborer, ...	35	M.	Centralia, ...	Columbia, ...	Leg fractured by fall of coal at face of gangway.
18	Steve Hudock, ...	Austrian, ..	Laborer, ...	23	M.	Centralia, ...	Columbia, ...	Arm fractured by coal falling on him while placing timber.
Aug. 4	Arthure Shucker, ...	American, ..	Starter, ...	25	M.	Centralia, ...	Columbia, ...	Leg fractured by door frame torn out by cars.
20	John Iffert, ...	American, ..	Loader, ...	22	S.	Hammond, ...	Schuylkill, ...	Leg fractured by flying iron from bursting air line.
21	George Porter, ...	Lithuanian,	Miner, ...	28	S.	Girard Mammoth, ...	Schuylkill, ...	Hand blown off by explosion of box of dynamite caps.
30	Dan Loyde, ...	Welsh, ...	Miner, ...	53	M.	Hammond, ...	Schuylkill, ...	Leg fractured by old timber falling on him.
	Edward Kellager, ...	American, ..	Driver, ...	20	S.	Sayre.	Northumberland, .	Leg cut and bruised by being bumped between cars.
Sept. 9	Condy Gilday, ...	American, ..	Spragger, ...	17	S.	Sayre, ...	Northumberland, .	Arm fractured by falling off mule. Outside.
Oct. 2	Charles Cilend, ...	Italian, ...	Laborer, ...	23	S.	Girard Bear Ridge, ..	Schuylkill, ...	Arms burned by steam in boiler house. Outside.
13	John Zakalo, ...	American, ..	Driver, ...	19	S.	Sayre, ...	Northumberland, .	Arm and leg fractured by rush of coal in stripping. Outside.
15	William O'Connel, ...	American, ..	Slatepicker, ...	14	S.	Girard Bear Ridge, ..	Schuylkill, ...	Arm fractured by falling in breaker. Outside.
27	Joe. Brown, ...	Italian, ...	Runner, ...	22	S.	Packer No. 4, ...	Schuylkill, ...	Finger cut off by being caught in car wheel with sprag. Outside.

Digitized by Google

Oct.	25	John Andrewchisin,	Austrian,	Miner,	34	M.	Packer No. 5,	Schuylkill,	Face and hands burned by explosion of gas.
	28	Fred Shumber,	German,	Laborer,	30	M.	West Bear Ridge,	Schuylkill,	Leg fractured by piece of rock rolling on it at face.
Nov.	4	William Morris,	Russian,	Miner,	30	M.	Sayre,	Northumberland,	Arm fractured by fall of coal at face of breast.
	9	James Christ,	German,	Miner,	40	M.	West Bear Ridge,	Schuylkill,	Leg fractured by falling from top of car.
	13	Matt Noyalaus,	Lithuanian,	Miner,	28	S.	Hammond,	Schuylkill,	Leg crushed between cars.
	26	Anthony Dombuskie,	Polish,	Miner,	28	S.	Midvalley,	Columbia,	Face and hands lacerated by premature blast.
	28	James Sweeney,	American,	Miner,	32	M.	Packer No. 5,	Schuylkill,	Body bruised by being forced down breast manway by water.
Dec.	3	George Foy,	American,	Door tender,	16	S.	Bast,	Schuylkill,	Body bruised by being caught between car and timber.
	6	Frank Samanchick,	Russian,	Miner,	34	M.	Packer No. 5,	Schuylkill,	Arm fractured by fall of coal at face of chute.
	12	Yonick Yelko,	Austrain,	Miner,	26	M.	Packer No. 5,	Schuylkill,	Wrist fractured by falling down chute.
	23	John Kurell,	Italian,	Laborer,	40	S.	Packer No. 4,	Schuylkill,	Arm lacerated by being caught between car and chain. Outside.
		Robert Calbert,	American,	Miner,	45	M.	Packer No. 5,	Schuylkill,	Arm fractured by fall of coal at face of breast.
	24	Gomer Barnes,	American,	Driver,	19	S.	Sayre,	Northumberland,	Body bruised by falling under moving car.

Digitized by Google

Packer No. 5 Colliery.—Foundations were laid for a new steel and concrete breaker, which will be erected the coming year. A refuse plane was built to transport the refuse to the top of the mountain south of the colliery. A new fireproof locomotive house was built. A saw mill was erected for cutting mine timber by electric machinery.

Automatic devices were placed on the shaft engines to prevent overhoisting. A tunnel 183 feet was driven from Seven Foot to the Mammoth, on west south dip, second level.

PHILADELPHIA AND READING COAL AND IRON COMPANY

Hammond Colliery.—The single and double track tunnel, fourth level, from the Buck Mountain vein to the coal hoisting, was completed, a distance of 1,576 feet.

A new 21-foot diameter Reading Guibal fan and 16 by 30-inch fan engine were installed and house over engine on the Skidmore, completed.

A 40 by 60-inch hoisting engine was installed in new engine house.

A head frame was constructed over the coal hoisting shaft and a system of mine car tracks between the shaft and breaker tips was completed. An addition, 16 by 28 feet, was built on east side of lamp house and the check system installed. A traffic tunnel 261 feet was driven from the West Holmes to West Orchard gangways, third level.

A traffic tunnel was driven 162 feet between the West Holmes and West Mammoth gangways, third level.

A traffic tunnel was driven 330 feet between the East Orchard and East Diamond gangways, third level. An air tunnel was driven 164 feet between West Mammoth and West Holmes Monkey gangways, third level; also an air tunnel 162 feet between West Holmes and West Orchard Monkey gangways, third level.

Potts Colliery.—A tunnel 227 feet was driven from West Diamond second level, to Tracy vein. Completed run-around gangway 107 feet in the slate under slope in Diamond vein, second level.

An electric power line 19,820 feet was constructed from Locust Spring Colliery power plant to Potts Colliery.

An electric box car loader was installed and a steel rock trestle 164 feet long was constructed over the P. and R. Railway to dispose of breaker refuse. A lamp and check house, 28 by 28 feet, was built near top of Primrose slope. A slope on 25 degree pitch is being sunk in the top rock of the Skidmore vein, North basin, North dip, from the first to second level.

A tender slope in Diamond vein from the surface to the fifth level is being sunk.

Bast Colliery.—Completed an airway 100 square feet in area in the Skidmore from the surface to third level, a distance of 1,350 feet.

Installed a 21 foot Reading Guibal force fan and a 16 by 30 inch fan engine, and erected house over engine.

Completed a tunnel 870 feet to and around coal shaft from East Buck Mountain gangway, second level.

A new coal hoisting shaft, with four compartments, each 7 feet by 121 feet, 8 inches is being sunk.

Digitized by Google

Completed concrete foundation for the new 36 by 60 inch hoisting engines for the coal shaft.

An addition, 16 by 28 feet, was built on east side of lamp house and the check system installed and placed in operation.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in Union Hall, Pottsville, March 25 and 26. The Board of Examiners was composed of James A. O'Donnell, Mine Inspector, Centralia; Jacob M. Holt, Superintendent, Girardville; John Meredith and James Price, Miners, Ashland.

The following persons passed a satisfactory examination and were granted certificates:

MINE FOREMEN

Frank Pollard, John J. Panko, Jr., John J. Doyle, Joseph Yorwarth, Michael T. Chapman, William H. Motter, Centralia; John T. Rudd, Shenandoah; William F. Blowert, Mahanoy Plane.

ASSISTANT MINE FOREMEN

Patrick Whalen, Edward J. Conners, John Hanna, Shenandoah; Luke Hoar, Michael J. Ryan, Lost Creek; John P. Coleman, Charles Witmayer, Girardville; Joseph E. Koch, Anthony McGinley, George Smith Wills, Centralia; John McLaughlin, Connerton.

Digitized by Google

SUMMARY OF STATISTICS

Number of collieries,	9
Number of mines,	24
Number of mines in operation,	24
Number of tons of coal shipped to market,	2,548,019
Number of tons used at mines for steam and heat,	298,082
Number of tons sold to local trade and used by employes,	43,412
Number of tons produced,	2,889,513
Number of tons produced by compressed air machines,	....
Number of tons produced by electrical machines,	....
Number of persons employed inside of mines,	5,235
Number of persons employed outside,	1,899
Number of fatal accidents inside of mines,	22
Number of fatal accidents outside,	3
Number of non-fatal accidents inside of mines,	27
Number of non-fatal accidents outside,	3
Number of tons of coal produced per fatal accident inside,	131,341
Number of tons produced per fatal accident outside,	963,171
Number of tons produced per fatal accident inside and outside,	115,580
Number of persons employed per fatal accident inside,	238
Number of persons employed per fatal accident outside,	633
Number of persons employed per fatal accident inside and outside,	285
Number of persons employed per non-fatal accident inside,	194
Number of persons employed per non-fatal accident outside,	633
Number of persons employed per non-fatal accident inside and outside,	238
Number of wives made widows,	12
Number of children made orphans,	14
Number of steam locomotives used inside of mines,	....
Number of steam locomotives used outside,	24
Number of compressed air locomotives used inside,	4
Number of compressed air locomotives used outside,	....
Number of electric motors used inside,	21
Number of electric motors used outside,	....
Number of fans in use,	27
Number of furnaces in use,	....
Number of gaseous mines in operation,	11
Number of non-gaseous mines in operation,	13
Number of new mines opened,	1
Number of old mines abandoned,	1

Digitized by Google

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Philadelphia and Reading Coal and Iron Company, ...	1,136,269
Mineral Railroad and Mining Company, ...	1,046,259
Colonial Collieries Company, ...	267,725
Greenough Red Ash Coal Company, ...	265,578
Enterprise Coal Company, ...	173,682
Total, ...	2,889,513

Production by Counties

Northumberland, ...	2,889,513

Digitized by Google

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	1	....	....	4	1	....	3	....	2	....	....	3	14
Miners' laborers,	....	....	....	....	....	2	....	....	....	....	1	....	3
Drivers and runners,	....	....	....	1	....	....	....	....	....	....	....	....	1
Spraggers,	1	....	....	....	....	....	....	....	....	....	....	....	1
Repairmen,	....	....	....	....	1	....	....	....	....	....	....	....	1
Bratticemen,	....	....	....	....	....	1	....	....	....	....	....	....	1
Bottommen,	....	....	....	....	1	....	....	....	....	....	....	....	1
Totals,	2	....	....	5	3	3	3	....	2	....	1	3	22
Outside													
Laborers,	1	....	....	....	....	....	....	....	....	....	....	....	1
Ashmen,	....	....	....	....	....	....	....	....	....	....	1	....	1
Car loaders,	....	....	....	....	1	....	....	....	....	....	....	....	1
Totals,	1	....	....	1	....	....	....	....	....	....	1	....	3
Grand totals inside and outside,	3	....	....	6	3	3	3	....	2	....	2	3	25

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Fire bosses and assistants,	....	....	....	....	....	....	....	....	[illegible]	....	....	....	[illegible]
Miners,	....	1	[illegible]	....	1	[illegible]	....	[illegible]	....	1	1	....	[illegible]
Miners' laborers,	1	....	1	1	....	....	1	1	....	....	1	1	[illegible]
Drivers and runners,	....	....	....	....	....	1	1	1	....	....	....	[illegible]	[illegible]
Loaders,	....	....	....	....	....	1	1	....	....	....	....	....	[illegible]
Footmen,	....	....	....	....	....	....	....	....	....	1	....	....	1
Totals,	1	1	3	1	1	4	3	4	2	2	2	3	[illegible]
Outside													
Laborers,	1	....	....	....	....	....	....	....	....	....	....	....	1
Timbermen,	....	....	1	....	....	....	....	....	....	....	....	....	1
Ashmen,	....	....	....	....	....	....	....	....	1	....	....	....	1
Totals,	1	....	1	....	....	....	....	....	1	....	....	....	[illegible]
Grand totals inside and outside,	[illegible]	1	[illegible]	1	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Digitized by Google

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	1	....	....	4	1	....	1	....	....	....	....	....	7
Irish,	....	....	....	....	1	....	....	....	....	....	1	....	2
Polish,	1	....	....	....	1	1	1	....	1	....	....	....	5
Italian,	....	....	....	....	....	....	1	....	1	....	....	....	2
Slavonian,	....	....	....	....	....	1	....	....	....	....	....	....	1
Lithuanian,	....	....	....	1	....	....	....	....	....	....	....	2	3
Austrian,	....	....	....	1	....	....	....	....	....	....	....	1	2
Russian,	1	....	....	....	....	....	....	....	....	....	1	....	2
Magyar,	....	....	....	....	....	1	....	....	....	....	....	....	1
Totals,	2	....	....	6	3	3	3	....	2	....	2	3	25

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	....	....	....	1	....	....	2	2	1	....	1	1	8
English,	....	....	1	....	....	....	....	....	....	....	....	....	1
German,	....	....	1	....	....	....	....	....	....	....	....	1	2
Polish,	1	1	1	....	1	3	....	....	2	....	1	1	11
Italian,	....	....	....	....	....	1	....	1	....	....	....	....	2
Lithuanian,	....	....	....	....	....	....	....	....	....	1	....	....	1
Russian,	1	....	1	....	....	....	1	1	....	1	....	....	5
Totals,	2	1	4	1	1	4	3	4	3	2	2	3	30

Digitized by Google

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Philadelphia and Reading Coal and Iron Co.															
Locust Spring Colliery:															
Locust Spring, East,	Slope,	Gaseous,	Fan,	21	5.6	5.6	76	1.6	Reading,	Steam,	10	48,930	49,920	49,940	1,022
Locust Spring,	Shaft,	Gaseous,	Fan,	15	3	4.6	100	1.4	Guibal,	Steam,	9	29,460	28,500	30,120	
Locust Spring, West,	Slope,	Gaseous,	Fan,	16	4	3.6	84	1.3	Guibal,	Steam,	8	45,000	48,000	48,500	
Locust Gap Colliery:															
Locust Gap, East,	Slope,	Gaseous,	Fan,	21	5	4.6	70	1.3	Guibal,	Steam,	10	80,130	80,120	81,176	
Locust Gap, West,	Slope,	Non-gas.,	Fan,	15	4	3.6	90	.5	Guibal,	Steam,	8	20,410	20,410	20,500	
Locust Gap, Buck Mountain,	Slope,	Non-gas.,	Fan,	12	4	3.6	75	.6	Reading,	Steam,	2	7,570	7,570	7,860	
Alaska Colliery:															
Alaska No. 1,	Shaft,	Non-gas.,	Fan,	18	4.8	5	88	1.5	Guibal,	Steam,	10	164,000	164,500	165,640	647
Alaska No. 2,	Shaft,	Non-gas.,	Fan,	18	7	6.5	87	1.4	Guibal,	Steam,	8				
Reliance Colliery:															
Reliance No. 1,	Slope,	Gaseous,	Fan,	18	5.6	5.6	75	1.4	Guibal,	Steam,	7	92,470	92,500	92,600	253
Reliance No. 2,	Slope,	Gaseous,	Fan,	18	5.6	5.6	80	1.5	Guibal,	Steam,	8				
Mineral Railroad and Mining Co.															
Pennsylvania No. 1,	Slope,	Gaseous,	Fan,	21	3.6	3.6	80	1.6	Guibal,	Steam,	6	80,000	77,000	81,900	798
Pennsylvania No. 2,				16	3	3	95	1.4	Guibal,	Steam,	4	65,410	65,500	66,700	
Pennsylvania No. 3,				16	3.6	3.6	100	1.6	Guibal,	Steam,	4	79,000	77,000	80,000	

Digitized by Google

Richards No. 1, ...	Slope, ...	Gaseous, ..	Fan, ...	18	7.2	5.2	106	1.2	Guibal, ...	Steam,....	8	75,191	76,500	77,441	674
Richards No. 2, ...	Slope, ...	Gaseous, ..	Fan, ...	20	6.8	6.4	96	1.3			8	80,586	79,000	82,557	
Richards No. 4, ...	Slope, ...	Non-gas., .	Fan, ...	16	4.5	4.5	65	1.1			6	22,500	21,000	23,650	
Scott Colliery:																
Scott, ...	Shaft,.....	Gaseous, ..	Fan, ...	18	7	5.6	102	2	Guibal, ...	Steam,.....	13	138,000	136,000	139,500	621
Colonial Collieries Co.																
Natalie Colliery:																
Natalie No. 2, ...	Slope, ...	Non-gas., .	Fan, ...	16	4	4.5	50	.8	Mullen, ...	Steam,....	2	15,000	14,100	15,300	409
Natalie No. 3, ...				14	4	4.11	60	1.2			3	23,000	22,500	24,000	
Natalie No. 4, ...				14	4	4.10	60	.9			8	42,000	41,200	43,350	
Natalie, Lykens No. 1,				16	4	4.4	45	.5			1	22,500	21,470	23,500	
Natalie, Lykens No. 2,				16	4	4.4	45	.5			5	12,000	10,740	12,700	
Greenough Red Ash Coal Co.																
Greenough Colliery:																
Greenough No. 1, ...	Shaft,.....	Non-gas., .	Fan, ...	21	5.6	6	49	2.1	Mullen, ...	Steam,.....	7	57,418	57,000	58,780	385
Greenough No. 2, ...	Drift,.....	Non-gas., .	Fan, ...	12	3.3	3.4	115	1.3	Mullen, ...	Steam,.....	3	33,640	34,780	35,000	
Enterprise Coal Co.																
Enterprise Colliery:																
Enterprise, ...	Shaft,...	Non-gas., .	Fan, ...	14	3.5	5	120	2.3	Guibal, ...	Steam,....	3	22,760	21,800	23,690	326
Enterprise No. 8, ...	Slope,..		Fan, ...	14	4.5	5	82	1.2			4	24,900	23,500	25,000	
Enterprise No. 10, ...	Slope, ..		Fan, ...	14	3.5	5	78	1.3			3	24,750	23,000	25,000	

Digitized by Google

TABLE I. Operators, location of collieries, [illegible]

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	[illegible]	[illegible]	[illegible]
Philadelphia and Reading Coal and Iron Co.						
Locust Spring,	Northumberland,	W. J. Richards Gen'l Coal Manager,	Pottsville,	[illegible]	[illegible]	[illegible]
Locust Gap,						
Alaska,						
Reliance,						
Mineral Railroad and Mining Co.						
Pennsylvania,	Northumberland,	H. A. Quin,	Wilkes Barre	W. H. Richards	[illegible]	[illegible]
Richards,						
Scott,						
Colonial Collieries Co.						
Natalie,	Northumberland,	F. A. Hill,	Pottsville,	H. H. Buchanan	[illegible]	[illegible]
Greenough Red Ash Coal Co.						
Greenough,	Northumberland,	Edward Brennan,	Shamokin,			[illegible]
Enterprise Coal Co.						
Enterprise,	Northumberland,	W. L. Connell,	Scranton,			[illegible]
Excelsior Coal Co.						
Excelsior,*	Northumberland,	A. D. Robertson,	Shamokin,	[illegible]		[illegible]

*Abandoned.

Digitized by Google

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Philadelphia and Reading Coal and Iron Co.													
Locust Spring,	Northumberland,	538,533	73,096	2,665	614,294	260	1,351	5	3	21,175	350,598	28,597	99
Locust Gap,													
Alaska,		270,654	26,023	59	296,736	219	803	1	3	107,500	139,176	9,250	68
Reliance,		172,965	33,827	18,447	225,239	258	480	3	1	16,825	144,244	.....	45
Totals,	.....	982,152	132,946	21,171	1,136,269	.....	2,634	9	7	145,500	634,018	37,847	212
Mineral Railroad and Mining Co.													
Pennsylvania,	Northumberland,	361,743	27,060	12,526	401,329	248	1,037	3	6	68,450	200,028	.....	71
Richards,		308,823	30,455	86	339,364	242	980	1	2	3,725	320,738	.....	74
Scott,		283,099	19,650	2,817	305,566	232	757	4	8	92,025	144,105	.....	67
Totals,	.....	953,665	77,165	15,429	1,046,259	.....	2,772	8	16	164,200	664,871	.....	212
Colonial Collieries Co.													
Natalie,	Northumberland,	231,330	33,221	3,174	267,725	290	620	2	2	16,250	131,500	.....	37
Greenough Red Ash Coal Co.													
Greenough,	Northumberland,	243,978	18,250	3,350	265,578	268	620	4	2	43,750	27,750	.....	63
Enterprise Coal Co.													
Enterprise,	Northumberland,	136,894	36,500	288	173,682	237	488	2	3	128,300	16,238	.....	52
Grand totals,	.....	2,548,019	298,082	43,412	2,889,513	.....	7,134	25	30	498,000	1,474,377	37,847	576

Digitized by Google

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers					Locomotives			Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Capacity delivered to surface per minute—gallons	Number of air compressors	Number of electric dynamos	Number of fan motors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric								
Philadelphia and Reading Coal and Iron Co.,	Northumberland,	.....	.....	54	7,470	7,470	10	4	4	135	18,526	17	32,304	6,940	2	10	10
Mineral Railroad and Mining Co.,		.....	.....	44	5,950	5,950	6	.....	7	62	7,660	12	9,000	3,750	2	8	8
Colonial Collieries Co.,		.....	.....	10	2,000	2,000	4	.....	.....	11	1,650	8	2,000	2,000	2	.....	.....
Greenough Red Ash Coal Co.,		.....	.....	8	1,200	1,200	.....	.....	4	14	420	3	3,000	2,000	2	.....	.....
Enterprise Coal Co.,		.....	.....	10	2,500	2,500	4	.....	6	12	1,328	4	6,548	6,548	2	1	1
Totals,	.....	.....	.....	128	19,200	19,200	24	4	21	234	30,994	44	47,342	23,773	10	19	19

Digitized by Google

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside: Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door boys and helpers	Pumpmen	Company men	All other employes	Total inside	Outside: Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	Grand total inside and outside
Philadelphia and Reading Coal and Iron Co.,	Northumberland,	5	27	....	386	219	137	24	19	221	484	2,022	....	7	26	97	53	19	12	398	612	2,634
Mineral Railroad and Mining Co.,		4	6	36	935	344	135	26	20	42	545	2,093	1	4	41	93	216	14	22	288	679	2,772
Colonial Collieries Co.,		1	5	....	140	124	28	3	10	35	63	409	....	1	11	41	22	3	2	126	211	620
Greenough Red Ash Coal Co.,		2	4	....	189	65	60	5	6	35	19	335	1	1	11	21	95	....	3	103	235	620
Enterprise Coal Co.,		1	1	....	161	63	23	2	4	51	20	326	1	1	8	22	24	18	3	75	162	488
Totals,		13	43	36	2,311	815	383	60	59	384	1,131	5,235	2	14	97	284	410	59	42	990	1,899	7,134

Digitized by Google

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Philadelphia and Reading Coal and Iron Co., ...	Northumberland, . .	25	23	19	24	24	23	18	13	12	21	23	21	246
Mineral Railroad and Mining Co., ...	Northumberland, . .	22	19	17	19	22	20	17	18	13	22	22	21	241
Colonial Collieries Co., ...	Northumberland, . .	26	23	23	24	25	24	24	24	15	24	25	23	280
Greenough Red Ash Coal Co., ...	Northumberland, . .	24	19	22	23	22	23	24	23	13	22	21	21	264
Enterprise Coal Co., ...	Northumberland, . .	22	18	16	14	19	16	17	24	23	25	27	20	217

Digitized by Google

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 11	Joseph Basavage, ...	Polish,.....	Miner, ...	46	M.	1	5	Pennsylvania, ...	Northumberland,	Killed by fall of slate while robbing pillars.
18	Jaco Arzenie, ...	Russian, ...	Laborer, ...	38	S.	....	....	Richards, ...		Killed by bar running through his body. While barring a car another car struck him and forced the bar through his body. Outside.
27	Theodore Shipshack,..	American, ..	Spragger, ...	17	S.	....	....	Reliance, ...		Fatally injured between cars on gangway while trying to couple them.
April 10	Harry Rainer, ...	American, ..	Miner, ...	21	S.	....	....	Locust Spring, ..		Killed by fall of coal at face of breast.
15	Michael Adams, ...	Lithuanian,	Miner, ...	39	M.	1	....	Locust Spring, ..		Killed by fall of coal at face of breast.
18	Thomas Foley, ...	American, ..	Driver, ...	18	S.	....	....	Greenough, ...		Killed by fall of slate on gangway.
	Jake Cominskie, ...	Austrian, ..	Miner, ...	29	M.	1	....	Greenough, ...		Killed by car. He fell under car and was run over.
22	Tim Snyder, ...	American, ..	Car loader,	17	S.	....	....	Locust Spring, ..		Killed by car. He fell under car and was run over. Outside.
29	Jerome Splane, ...	American, ..	Miner, ...	52	M.	1	5	Greenough, ...		Killed by fall of slate at face of pillar.
May 8	John Zdunick, ...	Polish,.....	Miner, ...	30	M.	1	....	Scott, ...		Killed by fall of slate in breast.
12	Patrick Boyle, ...	Irish, ...	Repairman, .	58	M.	1	....	Locust Spring, ..		Killed by fall of slate.
28	Henry Morgan, ...	American, ..	Bottom man,	28	S.	....	....	Reliance, ...		Killed by car on slope.
June 2	William Vengle, ...	Polish,.....	Laborer, ...	24	S.	....	....	Enterprise, ...		Killed by being suffocated by white damp on gangway.
7	George Sadusky, ...	Slavonian,..	Bratticeman,	38	M.	1	....	Scott, ...		Killed by the fumes of an explosion of dynamite in heading.
	Stephen Worgus, ...	Magyar, ...	Laborer, ...	24	S.	....	....	Scott, ...		Killed by the fumes of an explosion of dynamite in heading.
July 21	Peter Kolshefskie, ...	Polish,.....	Miner, ...	57	M.	1	....	Alaska, ...		Killed by blast.
25	Tony Sardell, ...	Italian, ...	Miner, ...	58	M.	1	....	Natalie, ...		Killed by prop falling on him on gangway.
28	Richard Lovell, ...	American, ..	Miner, ...	26	S.	....	....	Locust Spring, ..		Killed by fall of slate on gangway.
Sept. 23	Bert Paul, ...	Polish,.....	Miner, ...	33	M.	1	3	Pennsylvania, ...		Fatally burned by gas in old breast.
24	Angelo Serna, ...	Italian, ...	Miner, ...	21	M.	1	....	Pennsylvania, ...		Killed by being smothered by gas at face of breast.
Nov. 3	Martin Moran, ...	Irish, ...	Laborer, ...	38	S.	....	....	Natalie, ...		Killed between prop and car on slope.
8	Wasil Bolitskie, ...	Russian, ...	Ashman, ...	28	S.	....	....	Enterprise, ...		Killed by falling from elevated chute to railroad. Outside.
Dec. 2	George Hutsco, ...	Austrian, ..	Miner, ...	26	M.	1	1	Greenough, ...		Killed by fall of coal at face of breast.
11	Frank Mickalofskie,..	Lithuanian,	Miner, ...	34	S.	....	....	Reliance, ...		Killed by explosion of dynamite.
20	Paul Chulkila, ...	Lithuanian,	Miner, ...	22	S.	....	....	Scott, ...		Killed by car on slope.

Digitized by Google

CONDITION OF COLLIERIES

PHILADELPHIA AND READING COAL AND IRON COMPANY

Locust Spring Colliery.—Shaft No. 1, Holmes, East and West Slopes.—Ventilation, drainage and condition as to safety good.

Locust Gap Colliery.—East, West and Buck Mountain Slopes.—Ventilation, drainage and condition as to safety good.

Alaska and Reliance Collieries.—Ventilation, drainage and condition as to safety good.

MINERAL RAILROAD AND MINING COMPANY

Pennsylvania Colliery.—Nos. 1 and 5 Slopes.—Ventilation, drainage and condition as to safety good.

Richards Colliery.—Nos. 1, 4 and 5 Slopes.—Ventilation, drainage and condition as to safety good.

Scott Colliery.—Ventilation, drainage and condition as to safety good.

COLONIAL COLLIERIES COMPANY

Natalie Colliery.—Nos. 2, 3 and 4 Slopes and Lykens Nos. 1 and 2,—Ventilation, drainage and condition as to safety fairly good.

GREENOUGH RED ASH COAL COMPANY

Greenough Colliery.—Shaft and Drift.—Ventilation, drainage and general condition good.

ENTERPRISE COAL COMPANY

Enterprise Colliery.—Shaft.—Ventilation fair; drainage bad; safety condition fair.

IMPROVEMENTS

MINERAL RAILROAD AND MINING COMPANY

Pennsylvania Colliery.—Built a reinforced concrete retaining wall from the breaker trestle south to shops, 250 feet long by 10 feet high, 8 inches thick.

Installed safety blocks on empty car tracks at west side of breaker for safety of car loaders while loading cars under the breaker.

Placed posts along railroad track to prevent timber and lumber from getting too close to the track and for the safety of employes.

Built emergency hospital to give first aid to injured persons.

Built bath house 56 feet long and 25 feet wide, of concrete block, for the miners. This house is equipped with lockers, hot and cold water sprays, heated with steam and in charge of an attendant daily.

Shaft Counter, No. 1 slope level. Drove a 7 by 10 foot tunnel 100 feet from No. 10 seam south dip, cutting No. 9½ seam a distance of 55 feet and No. 9¾ seam a distance of 100 feet, on a dip of 75 degrees.

Airways were driven to surface, a distance of 270 feet.

Slope driven 750 feet across the pitch on a dip of 12 degrees from No. 1 slope to No. 2 slope counter in No. 10½ seam, eliminating counter

Digitized by Google

chute as well as 1,500 feet of slant gangway on which cars were run with sprags. Installed a 16 by 30 inch Mullen steam engine in a fireproof house in rock.

Built 66 concrete stoppings in the No. 4 seam, in south dip, No. 2 slope, 5 by 10 by 2 feet.

Built concrete wall 50 feet long by 9 feet high at mouth of No. 4 seam tunnel in No. 9 seam, No. 2 slope.

Concreted 70 feet of the back switch on the head of No. 2 slope.

Built concrete head house 35 by 10 by 8 feet to dip, with a ridge roof, at mouth of accommodation slope, making it warmer for men going up and down in winter.

Built 300 feet of center wall in No. 5 slope.

Drove tunnel 7 by 10 feet, 200 feet cutting the No. 4 seam, south dip, No. 5 slope.

Drove an air shaft up 50 feet through rock from No. 11 seam, north dip, to surface.

Drove a tunnel in No. 1 slope, shaft level, from No. 9¾ seam to No. 9½ seam.

Richards Colliery.—Built concrete block bath house 56 feet long and 25 feet wide for the miners. The house is equipped with lockers, hot and cold water sprays, heated with steam and in charge of an attendant daily.

Placed safety posts along empty car track to prevent timber and lumber from getting too close to track where employes are working.

Placed safety blocks on empty car track for the safety of car loaders while loading cars under the breaker.

Drilled 20-inch bore hole lined with 12 inch wooden pipe to a depth of 330 feet; also a 15 inch hole with a 12 inch steam pipe put into service to a depth of 330 feet, replacing two 6 inch steam lines which ran down through a steam way a distance of 775 feet; also one 6 inch steam line running down No. 3 slope, a distance of 220 feet.

Sank an underground single track slope in No. 9 seam, west north dip, No. 2 slope, to a depth of 340 feet across the pitch on an average dip of 28 degrees, and installed a pair of 12 by 14 inch self-contained Exeter geared engines.

Drove a traveling and airway parallel to slope on east side and west side of slope.

Drove airway from No. 3 slope to No. 1 slope level, 210 feet, on a dip of 70 degrees, connecting No. 2 fan with the south dip, No. 2 slope workings and greatly improving the ventilation.

Drove air tunnel from No. 8 seam to No. 5 seam, south dip, No. 2 slope, connecting Nos. 2 and 3 slopes and making a second outlet for them.

Concreted 28 feet of No. 1 slope mouth. The side walls are built 100 feet.

A single track slope 948 feet was sunk in No. 6 seam basin in No. 4 slope, making a total of 1,528 feet on an average dip of about 5 degrees. A tunnel 160 feet was driven south from No. 6 seam to No. 4 seam, north dip, cutting No. 4 seam at an elevation where there is a 3,300 foot tunnel under way from surface, which, when completed, will serve as a drainage as well as a haulage way for No. 4 slope basin, replacing the present No. 4 plant.

A tunnel was driven south from No. 6 seam, south dip, No. slope level, to No. 8 seam basin, connecting Nos. 4 and 5 slope leve

Digitized by Google

SUMMARY OF STATISTICS

Number of collieries,	14
Number of mines,	42
Number of mines in operation,	42
Number of tons of coal shipped to market,	2,636,550
Number of tons used at mines for steam and heat,	332,187
Number of tons sold to local trade and used by employes,	69,329
Number of tons produced,	3,038,066
Number of tons produced by compressed air machines,	....
Number of tons produced by electrical machines,	....
Number of persons employed inside of mines,	5,092
Number of persons employed outside,	2,147
Number of fatal accidents inside of mines,	19
Number of fatal accidents outside,	3
Number of non-fatal accidents inside of mines,	70
Number of non-fatal accidents outside,	10
Number of tons of coal produced per fatal accident inside.	159,898
Number of tons produced per fatal accident outside,	1,012,689
Number of tons produced per fatal accident inside and outside,	138,094
Number of persons employed per fatal accident inside,	268
Number of persons employed per fatal accident outside,	716
Number of persons employed per fatal accident inside and outside,	329
Number of persons employed per non-fatal accident inside,	73
Number of persons employed per non-fatal accident outside,	215
Number of persons employed per non-fatal accident inside and outside,	90
Number of wives made widows,	12
Number of children made orphans,	23
Number of steam locomotives used inside of mines,	2
Number of steam locomotives used outside,	22
Number of compressed air locomotives used inside,	....
Number of compressed air locomotives used outside,	....
Number of electric motors used inside,	8
Number of electric motors used outside,	5
Number of fans in use,	44
Number of furnaces in use,	....
Number of gaseous mines in operation,	23
Number of non-gaseous mines in operation,	19
Number of new mines opened,	....
Number of old mines abandoned,	3

Digitized by Google

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Philadelphia and Reading Coal and Iron Company, ...	1,457,742
Mineral Railroad and Mining Company, ...	951,981
Excelsior Coal Company, ...	226,784
Shipman Koal Company, ...	174,130
Buck Ridge Coal Mining Company, ...	115,267
Trevorton Colliery Company, ...	112,162
Total, ...	3,038,066

Production by Counties

Northumberland, ...	3,038,066

Digitized by Google

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Philadelphia and Reading Coal and Iron Co.,	8	1	9	28	3	31	182,218	52,062	2,191	937	3,128	274	937	78	312
Mineral Railroad and Mining Co.,	6	1	7	19	5	24	158,664	50,104	1,637	810	2,447	273	810	86	162
Excelsior Coal Co.,	3	.....	3	6	.....	6	113,...2	45,357	448	106	549	223	.....	89	.....
Shipman Koal Co.,	1	.....	1	4	.....	4	174,130	43,533	272	159	431	272	.....	68	.....
Buck Ridge Coal Mining Co.,	2	.....	2	14	.....	14	57,634	8,233	275	69	344	138	.....	20	.....
Trevorton Colliery Co.,	.....	1	1	.....	2	2	.....	.....	274	66	340	.....	66	.....	83
Totals and averages for district,	19	3	22	70	10	80	159,393	43,401	5,092	2,147	7,239	268	716	73	215

Digitized by Google

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	....	1	....	1	1	....	1	....	2	....	1	....	7	36.85
Falls of slate,	1	....	....	....	....	....	....	....	....	....	....	1	2	10.53
Falls of roof,	....	....	....	1	....	....	....	....	....	....	....	....	1	5.26
Mine cars,	....	1	....	....	....	....	....	....	....	1	....	1	3	15.79
Explosions of gas,	....	....	....	....	....	....	....	....	....	1	....	....	1	5.26
Suffocation by gas, etc.	....	....	....	....	....	....	....	1	....	....	....	....	1	5.26
Explosions of powder and dynamite,	....	1	....	....	....	....	....	....	....	....	....	....	1	5.26
Blasts, premature and otherwise,	....	....	....	1	1	....	....	....	....	....	....	....	2	10.53
Falling into slopes, etc.	....	....	....	....	....	....	....	1	....	....	....	....	1	5.26
Totals,	1	3	....	3	2	....	1	2	2	2	1	2	19	100.00
Causes of Accidents Outside														
Cars,	....	....	....	1	....	....	1	1	....	....	....	....	3	100.00
Totals,	....	....	....	1	....	....	1	1	....	....	....	....	3	100.00
Grand totals inside and outside,	1	3	....	4	2	....	2	3	2	2	1	2	22	.....

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	....	1	1	2	2	....	....	....	1	2	2	2	13	18.57
Falls of slate,	1	....	....	1	....	1	....	1	1	....	....	1	6	8.57
Falls of roof,	1	....	....	1	....	....	....	....	1	1	....	1	5	7.14
Mine cars,	1	....	....	....	3	1	1	1	1	2	1	....	11	15.71
Explosions of gas,	....	1	1	....	2	1	3	2	....	7	2	1	20	28.57
Explosions of powder and dynamite,	....	....	....	....	....	....	1	....	1	1	1	....	4	5.71
Blasts, premature and otherwise,	....	....	....	....	....	1	....	....	....	....	....	....	1	1.43
Falling into slopes, etc.	....	....	....	1	....	....	....	....	....	....	2	....	3	4.29
Falls,	....	....	1	....	....	....	....	....	....	1	1	....	3	4.29
Struck by piece of coal,	....	....	....	1	....	....	....	....	....	....	1	....	2	2.86
Struck by door,	....	....	....	....	....	....	....	....	....	....	....	1	1	1.43
By falling,	....	....	....	....	....	....	....	....	....	1	....	....	1	1.43
Totals,	3	2	3	6	7	4	5	4	5	15	10	6	70	100.00
Causes of Accidents Outside														
Cars,	1	....	....	....	1	2	....	....	1	....	....	....	5	50.00
Machinery,	....	....	....	....	....	....	....	1	....	....	....	....	1	10.00
Struck by timber,	1	....	....	....	....	....	....	....	....	....	....	....	1	10.00
Struck by rope,	....	....	....	....	1	....	....	....	....	....	....	....	1	10.00
By sheet iron falling on him,	....	....	....	....	....	....	1	....	....	....	....	....	1	10.00
By falling,	1	....	....	....	....	....	....	....	....	....	....	....	1	10.00
Totals,	3	....	....	....	2	2	1	1	1	....	....	....	10	100.00
Grand totals inside and outside,	6	2	3	6	9	6	6	5	6	15	10	6	80	.....

Digitized by Google

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	....	....	....	2	1	....	1	2	1	1	1	1	9
Miners' laborers,	1	2	....	....	1	....	....	....	1	....	....	1	6
Top men,	....	....	....	....	....	....	....	....	....	1	....	....	1
Bottom men,	....	1	....	....	....	....	....	....	....	....	....	....	1
Timber men,	....	....	....	1	....	....	....	....	....	....	....	....	1
Totals,	1	3	....	3	2	....	1	2	2	2	1	2	19
Outside													
Car loaders,	....	....	....	....	....	....	1	....	....	....	....	....	1
Laborers,	....	....	....	1	....	....	....	1	....	....	....	....	2
Totals,	....	....	....	1	....	....	1	1	....	....	....	....	3
Grand totals inside and outside,	1	3	....	4	2	....	2	3	2	2	1	2	22

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Fire bosses and assistants,	1	....	....	....	....	....	....	....	....	....	....	....	1
Miners,	2	2	1	5	4	4	4	2	3	7	6	4	44
Miners' laborers,	....	....	1	1	....	1	2	1	4	1	1	1	12
Drivers and runners,	....	....	....	....	3	....	....	....	....	3	2	....	5
Loader bosses,	....	....	....	....	....	....	....	....	1	....	....	....	1
Bottom men,	....	....	....	....	....	....	....	....	....	....	1	....	1
Loaders,	....	....	1	....	....	....	....	....	....	1	....	....	2
Repair men,	....	....	....	....	....	....	....	....	....	....	....	1	1
Totals,	3	2	3	6	7	4	5	4	5	15	10	6	70
Outside													
Blacksmiths and carpenters,	1	....	....	....	....	....	....	....	....	....	....	....	1
Engineers and firemen,	....	....	....	....	1	....	....	....	....	....	....	....	1
Slatepickers (boys),	....	....	....	....	....	....	....	....	1	....	....	....	1
Conductors,	1	....	....	....	....	....	....	....	....	....	....	....	1
Timbermen,	1	....	....	....	....	....	....	....	....	....	....	....	1
Laborers,	....	....	....	....	....	2	....	....	....	....	....	....	2
Repair men,	....	....	....	....	1	....	....	....	....	....	....	....	1
Jig runners,	....	....	....	....	....	....	1	....	....	....	....	....	1
Feeders,	....	....	....	....	....	....	....	1	....	....	....	....	1
Totals,	3	....	....	....	2	2	1	1	1	....	....	....	10
Grand totals inside and outside,	6	2	3	6	9	6	6	5	6	15	10	6	80

Digitized by Google

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	....	2	....	1	....	....	1	2	....	1	....	....	7
Welsh,	....	....	....	....	....	....	....	....	....	....	1	....	1
Polish,	....	....	....	2	1	....	1	1	....	1	....	1	7
Italian,	....	....	....	....	....	....	....	....	1	....	....	....	1
Lithuanian,	....	....	....	....	....	....	....	....	1	....	....	....	1
Austrian,	....	....	....	....	....	....	....	....	....	....	....	1	1
Russian,	1	1	....	1	1	....	....	....	....	....	....	....	4
Totals,	1	3	....	4	2	....	2	3	2	2	1	2	22

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	4	....	....	....	4	2	1	....	3	5	2	3	24
German,	....	....	1	....	....	....	1	1	1	1	1	....	5
Polish,	1	....	....	3	2	2	3	3	2	6	5	2	28
Italian,	....	1	....	....	2	....	....	....	....	....	1	1	6
Slavonian,	1	....	....	....	1	....	....	....	....	1	....	....	3
Austrian,	....	....	1	....	....	....	....	....	....	....	....	....	1
Russian,	....	1	1	3	....	2	1	1	....	2	1	....	12
Totals,	6	2	3	6	9	6	6	5	6	15	10	6	80

Digitized by Google

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Area of furnace bars in square feet	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Philadelphia and Reading Coal and Iron Co.																
North Franklin Colliery:																
North Franklin No. 1,	Drift,	Non-gas.,	Fan,	18	6	5.4	70	0.8	Guibal,	Electricity,	..	8	78,500	60,200	80,200	429
North Franklin No. 2,	Slope,	Non-gas.,	Fan,	18	6	5.5	80	2.1	Guibal,	Steam,	..	6	71,400	53,600	73,200	
North Franklin No. 3,	Slope,	Gaseous,	Fan,	15	5.1	4.5	50	1.1	Guibal,	Electricity,	..	5	58,000	39,000	59,100	
Bear Valley Colliery:																
Bear Valley No. 1,	Shaft,	Gaseous,	Fan,	18	6.9	4.9	95	2.1	Guibal,	Steam,	..	7	47,000	44,000	48,000	428
Bear Valley No. 2,	Shaft,	Gaseous,	Fan,	12	4	3.6	55	0.6	Guibal,	Steam,	..	3	27,500	26,000	28,400	
Bear Valley No. 3,	Drift,	Non-gas.,	Fan,	15	4	5	95	0.6	Guibal,	Steam,	..	3	39,000	37,000	40,000	
Burnside Colliery:																
Burnside No. 1,	Drift,	Non-gas.,	Fan,	15	4.2	5.6	90	1.0	Guibal,	Steam,	..	4	40,600	36,000	42,000	516
Burnside No. 2,	Shaft,	Gaseous,	2 Fans,	15	4	5	90	1.1	Guibal,	Steam,	..	6	41,400	37,600	42,600	
				15	4	5	90	1.2			..	4	41,000	37,000	42,000	
Stirling Colliery:																
Stirling No. 1,	Slope,	Gaseous,	3 Fans,	18	6	5.4	80	1.3	Guibal,	Steam,	..	8	31,000	32,000	35,000	244
				21	7.2	6	65	1.4			..	5	40,000	36,000	41,000	
				15	4.6	4.3	85	1.8			..	6	34,000	32,000	35,000	
Henry Clay Colliery:																
Henry Clay No. 1,	Shaft,	Gaseous,	2 Fans,	21	7	6.3	70	1.4	Guibal,	Steam,	..	7	53,000	50,000	54,000	276
				15	4	5	120	1.2			..	6	46,000	45,000	49,000	

Digitized by Google

Mountain Colliery:																	
Mountain No. 1, ...	Drift, ...	Non-gas., .	Fan, ...	12	4	3.6	120	1.5	Guibal, ...	Steam, ...	3	24,000	21,500	25,000	274		
Mountain No. 2, ...	Slope, ...	Gaseous, ..	Fan, ...	13	6	5.5	70	1.2			4	33,000	29,000	34,000			
Mountain No. 3, ...	Slope, ...	Gaseous, ..	Fan, ...	12	6	5.5	75	0.3			4	40,000	37,500	41,000			
Coal Railroad and Mining Co.																	
Cameron Colliery:																	
Cameron No. 1, ...	Slope, ...	Gaseous, ..	Fan, ...	20	7	6.3	40	0.4	Guibal, ...	Steam, ...	7	59,000	57,000	62,000	742		
Cameron No. 2, ...	Drift, ...	Gaseous, ..	Fan, ...	18	6	5.2	73	1.4		Electricity, .	8	18,900	18,000	19,600			
Cameron No. 3, ...	Slope, ...	Gaseous, ..	Fan, ...	18	7	5.3	100	2.7		Steam, ...	9	26,000	24,000	26,800			
Cameron No. 4, ...	Slope, ...	Gaseous, ..	Fan, ...	18	6	5.7	73	1.4		Steam, ...	8	43,000	39,000	45,000			
Cameron No. 5, ...	Shaft, ...	Gaseous, ..	2 Fans, ..	18	6	5.2	85	1.6		Steam, ...	8	20,200	18,000	20,600			
				16	6	5.3	96	2.4		Steam, ...	8	21,300	20,300	21,400			
Cameron No. 1,*	Drift, ...	Non-gas., .	.....	.....	.....	.....	.....	.....	.....	.....	..	.....	.....	.....	.....		
Cameron No. 3,*	Drift, ...	Non-gas., .	.....	.....	.....	.....	.....	.....	.....	.....	..	.....	.....	.....	.....		
Cameron No. 4,*	Drift, ...	Non-gas., .	.....	.....	.....	.....	.....	.....	.....	.....	..	.....	.....	.....	.....		
Luke Fidler Colliery:																	
Luke Fidler No. 1, ...	Shaft, ...	Gaseous, ..	Fan, ...	13	7	5	84	2.4	Guibal, ...	Steam, ...	3	54,600	50,700	56,700	372		
Luke Fidler No. 2, ...	Shaft, ...	Gaseous, ..	2 Fans, ..	12	7	5.2	106	1.6	Guibal, ...	Steam, ...	5	88,900	86,700	91,600			
				16	6	5	103	2.0	Guibal, ...	Electricity, .	2	52,800	50,600	58,200			
Luke Fidler No. 3, ...	Drift, ...	Non-gas., .	Fan, ...	10	4.4	3	70	0.2	Sturtevant, ...	Steam, ...	2	13,600	11,200	14,900			
Hickory Ridge Colliery:																	
Hickory Ridge No. 1, ...	Slope, ...	Gaseous, ..	Fan, ...	18	7	5.6	70	0.8	Guibal, ...	Steam, ...	5	70,300	68,000	75,000	523		
Hickory Ridge No. 2, ...	Slope, ...	Gaseous, ..	Fan, ...	15	4.9	4.7	90	0.7			7	65,100	63,200	67,300			
Hickory Swamp Colliery:																	
Hickory Swamp No. 1, ..	Slope, ...	Gaseous, ..	2 Fans, ..	16	5.5	4.5	80	1.2	Guibal, ...	Steam, ...	3	50,100	48,000	56,000			
				14	3.6	4.1	90	1.0			2	24,000	22,000	25,100			
Excelsior Coal Co.																	
Corbin Colliery:																	
Corbin No. 1, ...	Drift, ...	Non-gas., .	Fan, ...	10	3	3.6	100	1.3	Beadle, ...	Steam, ...	4	24,000	23,000	25,000	340		
Corbin No. 2, ...	Drift, ...	Non-gas., .															
Corbin No. 3, ...	Slope, ...	Gaseous, ..	Fan, ...	12	5	5	90	2.1			2	27,000	24,000	28,000			
Corbin No. 4, ...	Slope, ...	Gaseous, ..	Fan, ...	12	5	5	90	2.2			4	28,000	24,000	27,000			
Corbin No. 5, ...	Drift, ...	Non-gas., .	Fan, ...	10	3	3.6	90	1.5			2	25,000	23,000	25,600			
Corbin No. 6, ...	Drift, ...	Non-gas., .															
Shipman Koal Co.																	
Colbert Colliery:																	
Colbert No. 1, ...	Shaft, ...	Gaseous, ..	Fan, ...	15	5	4	90	0.3	Guibal, ...	Steam, ...	4	52,000	40,000	53,500	272		
Colbert No. 2, ...	Drift, ...	Gaseous, ..	Fan, ...	16	5	4	75	0.5			3	55,000	53,000	57,000			
Buck Ridge Coal Mining Co.																	
Buck Ridge Colliery:																	
Buck Ridge No. 1, ...	Slope, ...	Gaseous, ..	Fan, ...	14	4.6	4.6	85	0.5	Pollock, ...		7	35,000	33,000	37,500	275		
Buck Ridge No. 2, ...	Drift, ...	Non-gas., .	Fan, ...	13	5.5	5.5	43	0.3	Guibal, ...		8	30,600	29,000	32,800			
				5	2.2	2.2	150	0.2	Stine, ...	Steam, ...	2	7,000	6,000	7,600			
Buck Ridge No. 3, ...	Slope, ...	Non-gas., .	3 Fans, ..	6	2.2	2.2	168	0.2	Stine, ...		2	7,000	6,400	7,400			
				12	3.6	3.6	50	0.2	Guibal, ...		3	9,000	8,000	10,000			

*Abandoned.

Digitized by Google

TABLE 2 —Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives: Number of pounds of powder used	Explosives: Number of pounds of dynamite used	Explosives: Number of pounds of permissible explosives used	Number of horses and mules
Philadelphia and Reading Coal and Iron Co.													
North Franklin,	Northumberland,	351,331	22,773	6,520	390,624	287	641	1	12	180,850	72,698	.....	52
Lear Valley,		248,269	28,894	970	278,133	238	670	2	8	136,975	61,800	.....	57
Burnside,		362,140	55,793	9,787	427,720	263	737	.....	4	163,925	47,864	.....	95
Stirling,							272	4	2	85,450	11,104	.....	
Henry Clay,		296,964	41,088	23,273	361,325	266	478	2	2	93,750	13,154	12,111	85
Big Mountain,							330	.....	3	63,375	22,996	.....	
Totals,	.....	1,258,694	158,498	40,550	1,457,742	.....	3,128	9	31	724,325	229,616	12,111	289
Mineral Railroad and Mining Co.													
Cameron,	Northumberland,	353,284	42,511	15,639	411,434	229	1,063	3	6	130,425	32,521	3,350	96
Lake Fidler,		157,528	26,973	8,462	192,963	216	562	1	7	67,925	17,248	620	68
Hickory Ridge,		280,168	23,460	939	304,567	241	818	3	11	127,650	77,713	.....	47
Hickory Swamp,													
		790,980	92,944	25,040	908,964	.....	2,413	7	24	326,000	127,477	3,970	253
Hickory Swamp Washery,	Northumberland,	34,107	8,910	.....	43,017	192	34	.....	.....	.....	.....	.....	.....
Totals,	.....	825,087	101,854	25,040	951,981	.....	2,447	7	24	326,000	127,477	3,970	253
Excelsior Coal Co.													
Corbin,	Northumberland,	196,296	30,000	849	228,784	278	549	2	5	225,000	15,575	.....	55

Digitized by Google

Shipman Coal Co.													
Albert,	Northumberland,	154,812	19,200	618	174,130	234	431	1	4	40,550	42,500	.....	30
Black Ridge Coal Mining Co.													
Black Ridge,	Northumberland,	97,768	15,900	1,599	115,267	286	344	2	14	12,475	76,000	.....	25
Trevorton Colliery Co.													
Katherine,	Northumberland,	104,294	6,735	1,133	112,162	220	340	1	2	7,870	26,789	22,332	25
Grand totals,		2,636,550	332,187	69,329	3,038,066	.....	7,239	22	80	1,336,229	517,967	38,413	677

Digitized by Google

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers					Locomotives			Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric							
Philadelphia and Reading Coal and Iron Co.,	Northumberland,	.....	.....	66	8,250	8,250	7	.....	10	152	18,906	19	28,707	8,673	5	6
Mineral Railroad and Mining Co.,		.....	.....	53	7,002	7,002	9	.....	3	86	8,721	13	10,460	5,188	3	5
Excelsior Coal Co.,		.....	640	4	280	280	2	.....	.....	8	240	2	468	300	.....	.....
Shipman Koal Co.,		20	.....	10	1,275	1,275	2	.....	.....	20	1,078	3	1,536	512	.....	1
Buck Ridge Coal Mining Co.,		.....	.....	9	1,490	1,490	2	.....	.....	20	1,707	4	1,000	915	.....	2
Treverton Colliery Co.,		.....	.....	2	900	900	1	.....	.....	8	450	.....	.....	.....	.....	1
Totals,		20	640	144	19,197	19,747	24	.....	13	294	30,104	41	42,801	15,587	8	15

Digitized by Google

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	Grand total inside and outside
Philadelphia and Reading Coal and Iron Co.	Northumberland,	7	87	....	853	379	141	19	15	220	405	2,121	....	8	20	118	83	41	16	643	987	3,108
Mineral Railroad and Mining Co.,		4	10	25	657	208	114	21	13	49	491	1,557	....	4	45	110	228	16	23	879	510	2,447
Excelsior Coal Co.		1	3	2	226	61	40	....	3	49	27	448	1	1	13	17	10	10	2	53	106	549
Shipman Coal Co.		2	....	5	142	33	22	8	6	35	28	272	1	1	9	22	33	8	3	82	159	431
Buck Ridge Coal Mining Co.,		1	....	5	123	33	29	1	5	52	16	276	1	2	6	16	13	....	1	30	69	344
Treverton Colliery Co.,		1	....	3	92	25	7	11	....	124	....	274	1	1	13	33	11	....	2	5	66	340
Totals,		16	50	51	2,139	769	353	68	47	650	962	5,082	4	17	116	316	377	76	52	1,190	2,147	7,229

Inside

Outside

Digitized by Google

TABLE 3. Part 2

Names of Operators	County	Average Number of Days Worked in Months											
		January	February	March	April	May	June	July	August	September	October	November	December
Philadelphia and Reading Coal and Iron Co.,	Northumberland,	[illegible]											
Mineral Railroad and Mining Co.,	Northumberland,												
Excelsior Coal Co.,	Northumberland,												
Shipman Coal Co.,	Northumberland,												
Buck Ridge Coal Mining Co.,	Northumberland,												
Trevorton Colliery Co.,	Northumberland,												

Digitized by Google

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 31	Joseph Barko, ...	Russian, ...	Laborer, ...	18	S.	....	....	Hickory Ridge.	Northumberland.	Killed by fall of slate at face while robbing pillars.
Feb. 6	Edward Nankeville,	American,...	Laborer, ...	31	M.	1	1	Buck Ridge,.		Killed by explosion of dynamite in tunnel. It exploded while being thawed.
15	Philip Phillipi, ...	Russian, ...	Laborer, ...	32	S.	....	....	Colbert, ...		Killed by fall of top coal at face of breast.
27	John Fleming, ...	American,...	Bottom man,	21	S.	....	....	North Franklin.		Killed between mine cars at bottom of slope while coupling them.
April 5	Harry Verage, ...	Russian, ...	Miner, ...	45	S.	....	....	Corbin, ...		Killed by fall of coal at face of breast.
8	Robert Boyd, ...	American,...	Timberman, .	43	M.	1	3	Cameron, ...		Killed by fall of rock on gangway.
10	Mike Bondura, ...	Polish, ...	Laborer, ...	63	M.	1	....	Hickory Ridge.		Fatally injured by being squeezed between mine cars at breaker tip. Outside.
14	Joseph Glassick, ...	Polish, ...	Miner, ...	42	M.	1	5	Stirling, ...		Fatally injured by premature blast at face of work.
May 16	Andrew Checoskie, .	Polish, ...	Laborer, ...	29	M.	1	....	Stirling, ...		Killed by fall of coal at face of gangway.
19	Enoch Cona, ...	Russian, ...	Miner, ...	24	M.	1	....	Henry Clay,.		Fatally injured by premature blast at face of breast.
July 23	Miles Dougherty, ..	American,...	Car loader, .	19	S.	....	....	Bear Valley,.		Killed by railroad car running over him under breaker. Outside.
30	Adam Luskuskie, ...	Polish, ...	Miner, ...	27	M.	1	2	Stirling, ...		Killed by fall of coal.
Aug. 7	Joseph Broskie, ...	Polish, ...	Miner, ...	31	M.	1	3	Henry Clay,.		Killed by suffocation by gas.
25	Zacharias Hand, ...	American,...	Laborer, ...	65	M.	1	....	Katherine, ..		Killed by being struck by ash dumper under breaker. Outside.
26	John Murray, ...	American,...	Miner, ...	47	M.	1	2	Cameron, ...		Killed by falling down breast.
Sept. 23	Stanley Sullisavage,.	Lithuanian,	Laborer, ...	27	S.	....	....	Luke Fidler,		Killed by fall of top coal at face of gangway.
25	Fred Dominick, ...	Italian, ...	Miner, ...	28	S.	....	....	Stirling, ...		Killed by fall of coal at face of breast.
Oct. 14	Alex Yenconis, ...	Polish, ...	Miner, ...	36	S.	....	....	Buck Ridge,.		Fatally burned by explosion of gas at face of breast.
25	Samuel Jones, ...	American,...	Topman, ...	21	S.	....	....	Hickory Swamp.		Killed by being caught betweeen prop and mine car that jumped the track at top of inside slope.
Nov. 4	Arthur Jones, ...	Welsh, ...	Miner, ...	34	M.	1	4	Bear Valley,.		Killed by fall of timber and coal when car jumped track and knocked out set of timber.
Dec. 17	Joseph Zarcofskie,..	Polish, ...	Laborer, ...	22	S.	....	....	Corbin, ...		Killed by fall of top slate at face of breast.
19	Mike Luke, ...	Austrian, ...	Miner, ...	35	M.	1	3	Cameron, ...		Killed by falling under mine car while riding up the slope on the spreader chain.

Digitized by Google

TABLE 5.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Oct. 17	Joseph Siskoskie, ...	Russian, ...	Miner, ...	33	M.	Luke Fidler, ...	Northumberland.	Burned by gas at face of breast.
	Alex. Albert, ...	Polish, ...	Laborer, ...	21	S.			
18	Charles Woobidge, ...	American,...	Miner, ...	61	M.	Cameron, ...		Ribs broken by falling from top of mine car on gangway.
23	Frank Linderman, ...	American,...	Driver, ...	28	M.	Buck Ridge, ...		Body bruised between chute and mine car on gangway.
24	Joseph Boginskie, ...	Polish, ...	Miner, ...	38	M.	North Franklin, ...		Leg broken by fall of coal at face of breast.
25	Anthony Persick, ...	Slavonian, .	Driver, ...	19	S.	North Franklin, ...		Leg crushed between cars on gangway.
Nov. 3	Frank Purcell, ...	American,...	Bottom man, ...	28	M.	Corbin, ...		Leg broken by lump of coal rolling on him at foot of slope.
5	Mike Grego, ...	Polish, ...	Driver, ...	24	M.	Burnside, ...		Skull fractured by kick of mule on gangway.
10	Nick Martell, ...	Italian, ...	Miner, ...	27	M.	Hickory Ridge, ...		Face and hands burned by gas at face of breast.
11	James Bugden, ...	Polish, ...	Miner, ...	35	M.	Buck Ridge, ...		Foot broken by fall of coal at face of chute.
13	Edward Munsbour, ...	German, ...	Miner, ...	42	M.	Stirling, ...		Leg broken by fall of coal at face of breast.
14	Mike Shelbit, ...	Russian, ...	Miner, ...	25	S.	Burnside, ...		Face and hands burned by gas at face of chute.
17	Theodore Sheptock, .	Polish, ...	Driver, ...	21	S.	Buck Ridge, ...		Face cut by explosion of dynamite on gangway while helping the starter.
20	E. Eaton, ...	American,...	Laborer, ...	35	S.	Buck Ridge, ...		Three ribs fractured by runaway cars striking him on slope.
21	Frank Chesiock, ...	Polish, ...	Miner, ...	36	M.	Buck Ridge, ...		Body bruised by being knocked out of car while riding up slope.
	Joseph Gangle, ...	Polish, ...	Miner, ...	36	M.			
Dec. 1	Louis C. Herr, ...	American,...	Miner, ...	33	M.	Cameron, ...		Leg broken by fall of coal at face of breast.
2	Peter Bobrovitskie, ...	American, ..	Miner, ...	22	S.	Colbert, ...		Back broken by fall of top rock at face of breast.
12	Peter Fogetta, ...	Italian, ...	Miner, ...	38	M.	North Franklin, ...		Face and hands burned by gas at face of chute.
	Joseph Kolso, ...	Italian, ...	Repairman, ...	30	S.	North Franklin, ...		Shoulder broken by gangway door blowing against him.
22	Curtis Derr, ...	American,...	Miner, ...	33	M.	Corbin, ...		Pelvic bone broken by fall of slate at face of chute.
	Joseph Seleskie, ...	Polish, ...	Laborer, ...	22	S.	North Franklin, ...		Both legs broken by fall of coal at face of gangway.

Digitized by Google

CONDITION OF COLLIERIES

PHILADELPHIA AND READING COAL AND IRON COMPANY

North Franklin, Bear Valley, Burnside, Stirling, Henry Clay and Big Mountain Collieries.—Ventilation, drainage and condition as to safety good.

MINERAL RAILROAD AND MINING COMPANY

Cameron and Hickory Ridge Collieries.—Ventilation, drainage and condition as to safety good.

Luke Fidler and Hickory Swamp Collieries.—Ventilation and condition as to safety good; drainage fair.

EXCELSIOR COAL COMPANY

Corbin Colliery.—Ventilation and condition as to safety good.

SHIPMAN KOAL COMPANY

Colbert Colliery.—Ventilation, drainage and condition as to safety good.

BUCK RIDGE COAL MINING COMPANY

Buck Ridge Colliery.—Ventilation, drainage and condition as to safety good.

TREVORTON COLLIERY COMPANY

Katherine Colliery.—Ventilation fair; drainage and condition as to safety good.

IMPROVEMENTS

PHILADELPHIA AND READING COAL AND IRON COMPANY

North Franklin Colliery.—An underground slope, 992 feet was driven in No. 5 vein water level workings. A tunnel 89 feet was driven in the Short slope, second lift, from No. 9 vein south to No. 8 vein. Built an outside stable 108 by 41 feet. A 400 K. W. electric generator and engine was installed in the power house, and the power house was enlarged by the addition of a brick building 27 by 35 feet. The inside stable and outside buildings are lighted by electricity.

Bear Valley Colliery.—A tunnel 350 feet was driven in No. 2 shaft from No. 10 to No. 11 vein. Electric haulage was installed in No. 1 shaft, east side. An ash-wash system was installed in the boiler house for handling the ashes.

Completed outside power plane 810 feet long, operated by an electric engine, to handle the coal from the Delbaugh drift. A 20-ton dump car, operated by electric motor, was installed for handling refuse. A 70-ton Bucyrus steam shovel was installed for the purpose of stripping the Mammoth vein.

Burnside Colliery.—Electric hoists were installed on No. 7 power plane in No. 10 vein, second lift, and on No. 8 power plane in No. 8 vein, third lift, north dip.

Digitized by Google

Digitized by Google

SEVENTEENTH DISTRICT

CARBON AND SCHUYLKILL COUNTIES

Lansford, Pa., February 28, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor of transmitting herewith my annual report as Inspector of Mines for the Seventeenth Anthracite District for the year ending December 31, 1913.

Respectfully submitted,

ISAAC M. DAVIES, Inspector.

Digitized by Google

SUMMARY OF STATISTICS

Number of collieries,	10
Number of mines,	39
Number of mines in operation,	39
Number of tons of coal shipped to market,	4,160,427
Number of tons used at mines for steam and heat,	596,239
Number of tons sold to local trade and used by employes,	146,193
Number of tons produced,	4,902,859
Number of tons produced by compressed air machines,	....
Number of tons produced by electrical machines,	....
Number of persons employed inside of mines,	6,713
Number of persons employed outside,	2,975
Number of fatal accidents inside of mines,	26
Number of fatal accidents outside,	7
Number of non-fatal accidents inside of mines,	20
Number of non-fatal accidents outside,	6
Number of tons of coal produced per fatal accident inside,	188,571
Number of tons produced per fatal accident outside,	700,408
Number of tons produced per fatal accident inside and outside,	148,571
Number of persons employed per fatal accident inside,	258
Number of persons employed per fatal accident outside,	425
Number of persons employed per fatal accident inside and outside,	293
Number of persons employed per non-fatal accident inside,	336
Number of persons employed per non-fatal accident outside,	496
Number of persons employed per non-fatal accident inside and outside,	372
Number of wives made widows,	23
Number of children made orphans,	46
Number of steam locomotives used inside of mines,	3
Number of steam locomotives used outside,	46
Number of compressed air locomotives used inside,	2
Number of compressed air locomotives used outside,	....
Number of electric motors used inside,	60
Number of electric motors used outside,	1
Number of gasoline locomotives used inside,	5
Number of fans in use,	22
Number of furnaces in use,	....
Number of gaseous mines in operation,	19
Number of non-gaseous mines in operation,	20
Number of new mines opened,	4
Number of old mines abandoned,	2

Digitized by Google

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Lehigh Coal and Navigation Company,	4,324,561
Estate A. S. Van Wickle,	284,773
Coxe Brothers and Company, Incorporated,	257,711
Evans Colliery Company,	30,480
Moses Neyer,	5,334
Total,	4,902,859

Production by Counties

Carbon,	2,985,308
Schuylkill,	1,917,551
Total,	4,902,859

Digitized by Google

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Lehigh Coal and Navigation Co.,	23	6	29	17	5	22	188,024	288,304	6,009	2,531	8,540	261	422	253	506
Estate A. S. Van Wickle,	1	1	2	1	.....	1	284,773	284,773	405	215	620	405	215	405	215
Coxe Brothers and Co., Inc.,	.....	.....	.....	1	1	2	.....	257,711	251	194	445	.....	.....	251	194
Evans Colliery Co.,	2	.....	2	1	.....	1	15,240	30,480	63	31	94	32	.....	63	.....
Miscellaneous Companies,	.....	.....	.....	.....	.....	.....	.....	.....	5	4	9	.....	.....	.....	.....
Totals and averages for district,	26	7	33	20	6	26	188,571	245,142	6,713	2,975	9,668	258	425	256	496

Digitized by Google

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	....	....	....	....	....	1	....	....	....	....	1	....	2	7.69
Falls of roof,	2	....	....	....	1	....	1	....	....	....	....	....	4	15.38
Mine cars,	....	1	....	....	1	1	....	....	....	....	....	....	3	11.54
Explosions of gas,	....	....	....	....	....	....	1	....	....	1	2	....	4	15.38
Falling into shafts,	....	....	....	....	....	....	1	1	....	....	....	2	4	15.38
Falling into slopes, etc.,	1	....	....	....	....	....	....	....	....	....	....	....	1	3.85
Crushed at batteries,	....	1	....	....	....	....	1	....	....	....	....	....	2	7.69
Electricity,	....	....	....	....	....	....	1	....	....	....	....	....	1	3.85
Rush of coal,	1	1	....	....	....	....	....	....	....	....	....	....	2	7.70
Struck by timber,	....	....	....	....	....	....	....	1	....	....	....	....	1	3.84
Suffocated by falling into box chute,	....	....	....	....	....	....	....	....	....	1	....	....	1	3.85
Struck by gate,	....	....	....	....	....	....	....	....	....	1	....	....	1	3.85
Totals,	4	3	....	....	2	2	5	2	....	3	3	2	26	100.00
Causes of Accidents Outside														
Cars,	1	2	....	....	2	....	....	....	....	....	1	....	6	85.71
Struck by cog wheel,	....	....	....	....	....	....	....	....	....	....	....	1	1	14.29
Totals,	1	2	....	....	2	....	....	....	....	....	1	1	7	100.00
Grand totals inside and outside,	5	5	....	....	4	2	5	2	....	3	4	3	33	.....

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of slate,	....	1	....	....	....	....	....	....	....	....	....	....	1	5.00
Falls of roof,	....	1	....	....	....	1	....	....	....	....	1	....	3	15.00
Mine cars,	....	....	....	1	....	....	1	....	....	....	1	....	3	15.00
Explosions of gas,	1	....	....	....	....	....	2	1	....	3	....	....	7	35.00
Struck by timber,	....	....	....	....	1	....	....	1	....	1	....	....	3	15.00
Struck by piece of iron,	....	....	....	....	....	....	1	....	....	....	....	....	1	5.00
Struck by chain block,	....	....	....	....	....	....	....	1	....	....	....	....	1	5.00
Struck by piece of rock,	....	....	....	....	....	....	....	1	....	....	....	....	1	5.00
Totals,	1	3	....	1	1	1	4	4	....	4	2	....	20	100.00
Causes of Accidents Outside														
Cars,	....	1	....	1	....	....	....	....	....	....	....	....	2	33.34
By falling,	....	1	....	....	....	....	....	....	1	....	....	....	2	33.34
Explosion of blast,	....	....	....	....	....	....	1	....	....	....	....	....	1	16.66
Struck by lever,	....	....	....	....	....	....	....	....	....	....	....	1	1	16.66
Totals,	....	2	....	1	....	....	1	....	1	....	....	1	6	100.00
Grand totals inside and outside,	1	4	....	2	1	1	5	4	1	4	2	1	26	.....

Digitized by Google

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Lehigh Coal and Navigation Co.															
Nesquehoning Colliery:															
Number 1,	Tunnel,	Gaseous,	Fan,	21.0	7.0	8.3	50	.1	Guibal,	Steam,	18	115,700	114,500	*	214
			Natural,												
Number 2,	Shaft,	Gaseous,	Fan,	21.0	7.0	6.0	87	.2	Guibal,	Steam,	16	141,400	90,340	180,000	360
Number 3,	Slope,	Non-gas.,	Fan,	16.0	8.0	4.0	100	.6	Guibal,	Steam,	3	29,100	23,650	87,200	68
Number 2,	Tunnel,	Non-gas.,	Natural,								1	12,800	12,600	12,800	87
Number 1,	Drift,	Non-gas.,	Natural,	24.0	8.0	6.0	72	.8	Guibal,	Steam,	1	4,800	4,800	5,050	14
			Fan,												
Bird Eye,	Drift,	Gaseous,	Natural,								10	66,717	24,570	*	136
Summit,	Tunnel,	Non-gas.,	Natural,								†				
Lansford Colliery:															
Number 4,	Slope,	Gaseous,	Fan,	24.0	8.0	7.0	90	2.1	Sturtevant,	Steam,	2	98,560	108,400	108,400	215
Number 4,	Shaft,	Gaseous,	Fan,	24.0	8.0	7.0	90	2.1	Sturtevant,	Steam,	2	61,100	67,344	67,344	113
Number 6,	Shaft,	Gaseous,	Fan,	21.0	7.0	6.6	50	1.4	Guibal,	Steam,	9	65,500	68,490	68,890	150
Number 6,	Shaft,	Gaseous,	Natural,	22.6	8.0	6.6	87	1.4	Guibal,	Steam,	3	62,500	63,800	68,900	290
			Fan,												
Coaldale Colliery:															
Number 8,	Shaft,	Gaseous,	Fan,	24.0	8.0	6.0	70	1.0	Guibal,	Steam,	2	42,200	42,500	82,500	103
Number 8,	Slope,	Gaseous,	Natural,								†				
Number 9,	Shaft,	Gaseous,	Fan,	20.0	8.0	6.0	70	1.8	Vulcan,	Steam,	10	119,600	119,600	161,340	168

* Returns are below the surface. It is impossible to take air measurements.
† Not all mines are worked every day.

Digitized by Google

Greenwood Colliery:															
Number 10,	Shaft,	Gaseous,	Fan,	24.0	8.0	6.0	74	1.8	Guibal,	Steam,	4	52,000	47,500	61,000	242
Number 10,	Slope,	Gaseous,	Fan,	24.0	8.0	6.0	74	1.8	Guibal,	Steam,	5	30,300	55,000	55,000	197
Number 10,	Tunnel,	Gaseous,	Fan,	12.0	4.0	4.0	76	.6	Guibal,	Steam,	.	11,200	14,000	14,000	16
Rahn Colliery:															
Number 11, North Dip,	Shaft,	Gaseous,	Fan,	24.0	7.9	6.3	75	1.8	Guibal,	Steam,	5	86,000	83,500	130,000	136
Number 11, South Dip,	Shaft,	Gaseous,	Fan,	9.0	3.0	7.0	124	2.5	Sirocco,	Electricity,	9	61,000	53,000	80,000	174
Fosters,	Tunnel,	Gaseous,	Fan,	21.0	7.0	5.3	45	.8	Guibal,	Steam,	8	51,500	24,300	64,400	90
Tamaqua Colliery:															
South Side No. 14,	Shaft,	Gaseous,	Fan,	20.0	6.8	6.0	100	.3	Guibal,	Electricity,	8	64,800	7,825	65,650	141
North Side No. 14,	Shaft,	Gaseous,	Fan,	20.0	7.0	5.3	67	1.7	Sturtevant,	Steam,	8	14,000	9,150	21,690	216
Estate A. S. Van Wickle Coleraine Colliery:															
Buck Mountain,	Slope,	Gaseous,	Fan,	16 0	4.0	5.0	85	‡	Guibal,	Steam,	5	58,853	48,182	86,201	160
Coxe Brothers and Co., Inc. Beaver Meadow Colliery:															
Number 2,	Slope,	Non-gas.,	Fan,	20.0	6.0	5.6	90	.75	Guibal,	Steam,	1	19,560	16,480	57,360	27
Number 4,	Slope,	Non-gas.,	Fan,	12.0	5.0	5.6	110	.40	Guibal,	Steam,	3	40,570	18,460	93,760	88
Number 6,	Slope,	Non-gas.,	Fan,	20.0	6.0	5.6	90	.75	Guibal,	Steam,	1	19,560	16,480	57,360	26

‡Not reported.

NOTE.—There are fifteen non-gaseous mines in which the principal work done is robbing. No air measurements taken.

Digitized by Google

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Lehigh Coal and Navigation Co.						
Nesquehoning,	Carbon,	E. Ludlow,	Lansford,	W. G. Whildin Inside Supt. S. V. Tench, Outside Supt.	Lansford,	C. R. R. of N. J. and L. and N. E.
Lansford,	Carbon,					
Coaldale,	Schuylkill, Carbon,					
Greenwood,	Schuylkill,					
Rahn,	Schuylkill,					
Tamaqua,	Schuylkill,					
Coaldale Washery,	Schuylkill,					
Greenwood Washery,	Schuylkill,					
Hauto Washery,	Carbon,					
Estate A. S. Van Wickle						
Coleraine,	Carbon,	John Harvey,	Hazleton,			L. V., P. and R., and C. R. R. of N. J.
Coxe Brothers and Co., Inc.						
Beaver Meadow,	Carbon,	Thomas Thomas,	Wilkes-Barre,	W. H. Davies,	Hazleton,	Lehigh Valley
Evans Colliery Co.						
Evans,	Carbon,	W. E. Smith,	Hazleton,	W. E. Smith,	Hazleton,	Lehigh Valley
Moses Neyer						
Black Rock,	Carbon,	Moses Neyer,	Summit Hill,	Elmer Neyer,	Summit Hill,	

Digitized by Google

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Lehigh Coal and Navigation Co.													
Nesquehoning,	Carbon,	749,318	65,482	5,704	820,504	265	1,799	7	2	.....	495,796	42,910	68
Lansford,	Carbon,	712,055	163,959	68,769	944,783	260	2,319	6	13	.....	262,529	67,354	63
Coaldale,	Carbon, / Schuylkill,	827,183	19,672	5,919	852,774	268	1,426	5	1	.....	278,489	31,713	70
Greenwood,	Schuylkill,	405,031	55,414	13,152	473,597	255	1,003	5	3	1,800	239,449	4,500	53
Rahn,	Schuylkill,	256,169	53,206	8,094	317,469	236	854	4	1	.....	137,661	5,950	40
Tamaqua,	Schuylkill,	264,041	78,206	4,119	346,368	263	760	1	2	.....	160,280	5,917	14
		3,213,797	435,941	105,757	3,755,495	.....	8,161	28	22	1,800	1,574,204	158,344	308
Washeries													
Coaldale,	Schuylkill,	159,475	27,224	943	187,642	276	107	.....	.....	.....	100	.....	1
Greenwood,	Schuylkill,	144,924	19,799	1,365	166,088	265	82	.....	.....	.....	.....	.....	.....
Hauto,	Carbon,	152,810	38,531	23,995	215,336	284	190	1	.....	.....	3,525	4,550	3
		457,209	85,554	26,303	569,066	.....	379	1	.....	.....	3,625	4,550	4
Totals,	.....	3,671,006	521,495	132,060	4,324,561	.....	8,540	29	22	1,800	1,577,829	162,894	312
Estate A. S. Van Wickle													
Coleraine,	Carbon,	233,165	47,443	4,165	284,773	305	620	2	1	48,125	86,350	.....	71

Digitized by Google

TABLE 2.—Continued

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives: Number of pounds of powder used	Explosives: Number of pounds of dynamite used	Explosives: Number of pounds of permissible explosives used	Number of horses and mules
Coxe Brothers and Co., Inc.													
Beaver Meadow,	Carbon,	283,960	19,211	4,540	257,711	264	425	.....	2	28,575	145,166	.....	35
Evans Colliery Co.													
Evans,	Carbon,	22,296	8,000	134	30,430	286	94	2	1	.....	14,650	650	7
Moses Neyer													
Black Rock,	Carbon,	.....	90	5,244	5,334	300	9	.....	.....	.....	.....	1,800	.....
Grand totals,	.....	4,160,427	596,289	146,193	4,902,859	.....	9,688	33	26	78,500	1,823,995	165,344	425

Digitized by Google

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers					Locomotives			Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric							
Lehigh Coal and Navigation Co.,	Carbon,	3	186	140	23,976	29,162	39	*	61	203	33,571	23	47,243	9,309	8	17
	Schuylkill,															
Estate A. S. Van Wickle,	Carbon,	.....	.....	18	2,150	2,150	6	.....	.....	26	1,340	7	7,347	2,466	1	.....
Coxe Brothers and Co., Inc.,	Carbon,	.....	.....	2	2,000	2,000	4	2	.....	20	1,750	1	1,200	1,100	1	2
Evans Colliery Co.,	Carbon,	.....	.....	2	700	700	.....	.....	.....	6	155	4	2,600	1,600	.....	.....
Moses Neyer,	Carbon,	.....	.....	1	35	35	.....	.....	.....	2	30	.....	.....	.....	.....	.....
Totals,	.....	3	186	169	28,861	34,047	49	2	61	297	41,876	35	58,390	14,475	10	19

*5 gasoline locomotives in use.

Digitized by Google

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside										Outside									Grand total inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	
Lehigh Coal and Navigation Co., S. Van Wickle, Estate A.	Carbon, Schuylkill,	12	33	68	1,528	421	258	63	19	2,388	1,209	6,000	4	17	238	303	224	47	84	1,664	2,531	9,540
Coxe Brothers and Co., Inc.,	Carbon,	4	....	8	160	139	30	8	8	49	9	405	1	2	18	29	26	4	8	127	215	620
Evans Colliery Co.,	Carbon,	1	4	....	121	45	14	6	1	7	22	211	....	1	13	14	84	10	4	118	194	425
Moses Neyer,	Carbon,	1	....	....	25	25	3	1	2	6	.....	63	1	1	2	6	11	....	1	9	31	94
		....	....	....	2	....	3	....	....	.....	.....	5	....	....	....	1	....	....	....	8	4	9
Totals,		18	37	71	1,846	630	308	77	30	2,460	1,240	6,713	6	21	271	353	296	61	47	1,921	2,975	9,688

Digitized by Google

TABLE 3.—Part 4

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Lehigh Coal and Navigation Company,	Schuylkill,	26	23	19	21	24	24	20	17	22	25	22	16	258
	Carbon,	26	24	26	25	26	25	26	25	25	26	24	26	305
Estate A. S. Van Wickle,	Carbon,	24	23	16	23	25	23	21	20	21	23	23	20	264
Coxe Brothers and Co., Inc.,	Carbon,	25	22	21	20	21	23	26	25	25	26	26	25	296
Evans Colliery Co.,	Carbon,	26	25	26	24	23	25	26	26	23	27	26	25	300
Moses Neyer,	Carbon,	26												

Digitized by Google

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 8	William Samler, ...	American, ..	Miner, ...	49	W.	....	....	Evans, ...	Carbon, ...	Killed by fall of roof while starting a breast off No. 7 East Gamma gangway.
	Mike Magul, ...	Polish, ...	Miner, ...	29	M.	1	4	Evans, ...	Carbon, ...	Killed by fall of roof while starting a breast off No. 7 East Gamma gangway.
20	James Sentine, ...	Italian, ...	Laborer, ...	22	S.	....	....	Lansford, ...	Carbon, ...	Killed by being run over by locomotive. Outside.
22	Lucas Lantas, ...	Austrian, ..	Miner, ...	34	M.	1	3	Greenwood, ...	Schuylkill, .	Killed by rush of coal under check in chute.
24	John Harinchock, ...	Slavonian, ..	Loader, ...	20	S.	....	....	Nesquehoning	Carbon, ...	Killed by falling down balance plane in No. 1 tunnel.
Feb. 11	Steve Balosky, ...	Slavonian, ..	Miner, ...	39	M.	1	5	Rahn, ...	Schuylkill, .	Killed by rush of coal in manway.
15	John Androsky, ...	Slavonian, ..	Laborer, ...	21	S.	....	....	Lansford, ...	Carbon, ...	Killed by cars. Outside.
22	Bernard McGorry, ...	American, ..	Laborer, ...	18	S.	....	....	Nesquehoning, ...	Carbon, ...	Killed by cars in No. 1 tunnel.
26	Joseph B. Ritsko, ...	Hungarian, .	Laborer, ...	36	M.	1	2	Hauto Washery, ...	Carbon, ...	Killed by cars on dirt bank. Outside.
	Paul Bennyak, ...	Slavonian, ..	Laborer, ...	19	S.	1	2	Coaldale, ...	Schuylkill, .	Killed by suffocation at battery by rush of coal.
May 3	Paul Mustachio, ...	Italian, ...	Mucker boss,	27	M.	1	2	Nesquehoning, ...	Carbon, ...	Killed by fall of roof at face of No. 1 tunnel.
6	Peter McGlorick, ...	American, ..	Doorboy, ...	18	S.	....	....	Rahn, ...	Schuylkill, .	Fatally injured by cars while opening door for motor.
15	Mike Demshock, ...	Slavonian, ..	Laborer, ...	55	M.	1	2	Coleraine	Carbon, ...	Killed by cars. Outside.
29	George Goosely, ...	Slavonian, ..	Laborer, ...	54	M.	1	....	Nesquehoning, ...	Carbon, ...	Killed by cars. Outside.
June 7	Joseph Maletsky, ...	Austrian, ..	Laborer, ...	23	S.	....	....	Rahn, ...	Schuylkill, .	Killed between car and gangway leg.
9	Martin Serena, ...	Slavonian, ..	Miner, ...	31	M.	2	3	Greenwood, ...	Schuylkill, .	Killed by fall of coal at face of manway.
July 1	Leonard Houser, ...	American, ..	Miner, ...	25	M.	1	....	Nesquehoning, ...	Carbon, ...	Killed by suffocation by rush of coal and clay at battery.
14	Joseph Nawhide, ...	Slavonian, ..	Miner, ...	26	M.	1	1	Lansford, ...	Carbon, ...	Killed by contact with electric wire while passing between cars on gangway.
15	John Koshuta, ...	Greek, ...	Miner, ...	52	M.	1	2	Lansford, ...	Carbon, ...	Killed by fall of rock while repairing battery.
27	Walter Wylde, ...	American, ..	Machinist, ..	44	M.	1	....	Tamaqua, ...	Schuylkill, .	Killed by falling down shaft.
29	Frits Lesko, ...	Polish, ...	Miner, ...	45	M.	1	....	Lansford, ...	Carbon, ...	Fatally injured by explosion of gas on gangway.

Digitized by Google

Aug.	6	John Kramer, ...	Slavonian, ..	Laborer, ...	22	S.	....	....	Lansford, ...	Carbon, ...	Killed by falling down shaft.
	14	Mike Fritz, ...	Slavonian, ..	Miner, ...	39	M.	1	4	Greenwood, ...	Schuylkill, .	Killed by gangway collar falling on him while removing it from car.
Oct.	15	Victor Koslousky, ...	Russian, ...	Miner, ...	23	M.	1	....	Coaldale, ...	Schuylkill, .	Killed between sheet-iron gate and leg on trial slope.
	21	Henry Zeplin, ...	American, ..	Miner, ...	30	M.	1	....	Greenwood, ...	Schuylkill, .	Fatally burned by explosion of gas at face of breast.
	31	Peter Soates, ...	Slavonian, ..	Battery man,	23	M.	1	3	Coaldale, ...	Schuylkill, .	Killed by suffocation when he fell into box chute while starting battery.
Nov.	3	Mike Melnick, ...	Slavonian, ..	Laborer, ...	48	M.	1	3	Coleraine, ...	Carbon, ...	Fatally injured by fall of coal at pillar.
	12	Wilson Wagner, ...	American, ..	Miner, ...	43	M.	1	3	Nesquehoning, ...	Carbon, ...	Fatally burned by explosion of gas near face of breast.
	12	Thomas Dolan, ...	American, ..	Miner, ...	37	M.	1	2	Nesquehoning, ...	Carbon, ...	Killed by explosion of gas at face of breast.
	29	Thomas Hargus, ...	Slavonian, ..	Laborer, ...	38	M.	1	3	Greenwood, ...	Schuylkill, .	Killed by being run over by loaded rock car. Outside.
Dec.	3	Thomas Nash, ...	Slavonian, ..	Laborer, ...	37	M.	1	3	Rahn, ...	Schuylkill, .	Killed by cogwheel falling on him. Outside.
	16	Frank Harletcheck, ..	Horwat, ...	Miner, ...	26	M.	1	1	Coaldale, ...	Schuylkill, .	Killed by falling down shaft.
	16	Joseph Andronovitch,.	Polish,.....	Miner, ...	28	S.	....	....	Coaldale, ...	Schuylkill, .	Killed by falling down shaft.

Digitized by Google

CONDITION OF COLLIERIES

LEHIGH COAL AND NAVIGATION COMPANY

Nesquehoning Colliery.—Ventilation and drainage generally good; roads fair and general condition as to safety good.

Lansford Colliery.—Ventilation, with few exceptions, good; drainage, roads and general condition as to safety good.

Coaldale Colliery.—Ventilation generally good, drainage, roads and condition as to safety good.

Greenwood Colliery.—Ventilation, with few exceptions, good; drainage and roads fair; general condition as to safety good.

Rahn Colliery.—Ventilation generally good; drainage fair; roads and general condition as to safety good.

Tamaqua Colliery.—Ventilation, drainage and roads generally good; condition as to safety good.

ESTATE A. S. VAN WICKLE

Coleraine Colliery.—Ventilation, drainage and roads in generally good condition.

COXE BROTHERS AND COMPANY, INCORPORATED

Beaver Meadow Colliery.—Ventilation and drainage good; roads and general condition as to safety good.

EVANS COLLIERY COMPANY

Evans Colliery.—Ventilation and drainage good, roads fair; general condition as to safety good.

MOSES NEYER

Black Rock Colliery.—Ventilation and drainage good; roads fair; general condition as to safety good.

IMPROVEMENTS

LEHIGH COAL AND NAVIGATION COMPANY

Nesquehoning Colliery.—Extended east tunnel to south basin. Made traveling-way from No. 2 shaft level to No. 1 tunnel in the Seven Foot vein. Tunnel and air tunnel driven from East Mammoth opposite No. 6 tunnel north to Primrose vein. Drainage hole driven from No. 2 shaft to Lausanne tunnel. Built 50,000-gallons corrugated steel water tank and heater shed for mine cars.

Lansford Colliery.—No. 4 tunnel driven north from East Skidmore, fourth level to anticlinal of Mammoth. Erected feeder for 15-ton motor. Built fireproof stable in fourth vein, fourth level. Installed a 30 by 60 inch hoisting engine and head frame in fireproof engine house, a 42 by 60 inch hoisting engine and steel head frame in fireproof engine house, and 28 by 48 inch hoisting engine at [illegible] shaft. Installed 1,000 electric mine lamps. Built timber [illegible] with mechanical device for unloading and preparing mine timber

No. 5 Shaft. Built a concrete house for safety and electrical mine lamps, and a concrete wash house. Built a fireproof inside motor house. Installed a fan.

No. 6 Shaft. Erected head frames. Built elevator and pocket for condemned coal. Built railroad to replace dirt plane. Erected two oil houses and tanks and locomotive house. Hoisting engine house fireproofed. Water hoisting engine house made fireproof. Erected heater shed for mine cars, and two 75,000 gallon water tanks.

Coaldale Colliery.—Tunnel driven north from Orchard to Primrose, No. 8 water level. Tunnel driven south from Little Primrose to Big Primrose, third level, No. 9. Installed 20 inch fan in brick and concrete house at No. 9 shaft.

Coaldale No. 8 Shaft.—Tunnel driven from West Little Red Ash to Primrose, second level, No. 9. Extended Springdale tunnel to Mammoth vein. Built addition to breaker to accommodate 12 jigs. Built additional slush pumping plant. Built fireproof wash house at Springdale tunnel. Built ash conveyor at No. 8 boiler house. Water engine house made fireproof. 12 inch fan and engine installed in concrete house.

Greenwood Colliery.—Installed electric lighting and wiring at breaker.

Hauto Washery.—An electrically driven washery was put into operation November 24.

Rahn Colliery.—Extended No. 6 tunnel to Four Foot vein. Installed electric pump, piping, et cetera, for slush. Installed 6-foot electric Sirocco fan for south dip workings. Built 8-inch steam line from No. 10 to No. 11. Installed class A air compressor and 5 gasoline locomotives.

Tamaqua Colliery.—Installed an electrically driven fan in brick building at Sharp mountain. Built hollow tile wash house.

The company has given considerable attention to the question of safety and prevention of accidents. It has a fully equipped mine rescue car, First Aid Corps, Safety and Fire Inspector, and a Safety Committee to pass on the Inspector's reports.

ESTATE A. S. VAN WICKLE

Coleraine Colliery.—Slope No. 1. Retimbered pump-house with steel timbers, making it secure. Extended telephone line to pump-house from engine-house.

Wheel Barrow Slope, Buck Mountain.—Built a cement and iron extension to the mule stable to accommodate four mules. Walled up 35 finished breasts with rock and cement, bringing the full strength of the air current to the working face.

Slope No. 2, New Wharton.—Finished tunnel to the Wharton vein, connecting the New Wharton slope with No. 2 New Mammoth slope; total length of tunnel 126 feet. Made a rock pumphouse at the counter gangway, 16 feet long, 6 feet wide, 9 feet high; also a pump-house 35 feet long, 17 feet wide, 10 feet high. Installed in the above pumphouses one Jeanesville duplex pump 28 by 12 by 36 inches, one Jeanesville duplex pump 18 by 8 by 18 inches, and one Blake pump 24 by 12 by 24 inches. Also installed 765 feet of 12 inch cast iron column pipe; 765 feet of 8 inch cast iron column pipe; 900 feet of 6 inch wrought iron steam pipe.

Digitized by Google

Slope No. 7, Buck Mountain.—Built a cement emergency dam, 14 by 11 by 2 feet, in the east fourth level gangway, to hold all the water from the Buck Mountain and Gamma veins. Dam is reinforced with T rails to withstand a head of water 70 feet vertical.

Installed one Erie boiler, 50 H. P., with all necessary equipment. Outside: Installed one cedar wood 25,000-gallon water tank at No. 1, boiler house.

COXE BROTHERS AND COMPANY, INCORPORATED

Beaver Meadow Colliery.—No. 6 rock slope was started July 16, 1912, and completed January 15, 1913. First coal hoisted August 18, 1913. The slope was driven through the rock from No. 6 West Wharton, south dip, to the surface on pitch of 24 degrees. The slope is 8 by 14 by 145 feet long. It is the intention to continue the slope, at some future time, down to the Gamma and Buck Mountain veins. The mouth of the slope is concreted at the surface, the roof supports being 12 inch steel beams resting on concrete side walls.

Outside: Three sets of shaking screens were installed, improving the screening service.

Beaver Creek channel was changed to permit the extension of the Greenfield stripping. An extension to the East Greenfield stripping has been started by the removing of cover from the basin at the west end. The old steam shovel in the Temperance stripping has been replaced by a new 75-ton Marion shovel. A proving hole was driven from 12 West Buck Mountain, underneath No. 5 slope, in the Wharton, and 2 bore holes drilled from this proving hole tapped and drained the water from No. 5 slope.

No. 12 tunnel and No. 4 slope has been extended 135 feet to the bottom split of the Buck Mountain. The air shaft at No. 5 slope has been relined with concrete, it being the intention to take electric wires down this shaft for operating an electrical hoist for No. 5 slope. A new First Aid Hospital was erected.

EVANS COLLIERY COMPANY

Evans Colliery.—August 25, No. 7 Gamma slope was abandoned. The old No. 1 Gamma slope was reopened and the pillars are now being robbed.

Digitized by Google

EIGHTEENTH DISTRICT

SCHUYLKILL COUNTY

Pottsville, Pa., February 25, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit herewith my annual report as Inspector of Mines for the Eighteenth Anthracite District for the year ending December 31, 1913.

Respectfully submitted,

JOHN CURRAN, Inspector.

Digitized by Google

SUMMARY OF STATISTICS

Number of collieries,	15
Number of mines,	48
Number of mines in operation,	45
Number of tons of coal shipped to market,	2,629,803
Number of tons used at mines for steam and heat,	307,835
Number of tons sold to local trade and used by employes,	31,195
Number of tons produced,	2,968,833
Number of tons produced by compressed air machines,	....
Number of tons produced by electrical machines,	....
Number of persons employed inside of mines,	4,590
Number of persons employed outside,	1,921
Number of fatal accidents inside of mines,	26
Number of fatal accidents outside,	5
Number of non-fatal accidents inside of mines,	68
Number of non-fatal accidents outside,	10
Number of tons of coal produced per fatal accident inside,	114,186
Number of tons produced per fatal accident outside,	593,767
Number of tons produced per fatal accident inside and outside,	95,769
Number of persons employed per fatal accident inside,	177
Number of persons employed per fatal accident outside,	384
Number of persons employed per fatal accident inside and outside,	210
Number of persons employed per non-fatal accident inside,	67
Number of persons employed per non-fatal accident outside,	192
Number of persons employed per non-fatal accident inside and outside,	84
Number of wives made widows,	18
Number of children made orphans,	39
Number of steam locomotives used inside of mines,	4
Number of steam locomotives used outside,	34
Number of compressed air locomotives used inside,	9
Number of compressed air locomotives used outside,	....
Number of electric motors used inside,	9
Number of electric motors used outside,	....
Number of fans in use,	36
Number of furnaces in use,	....
Number of gaseous mines in operation,	24
Number of non-gaseous mines in operation,	21
Number of new mines opened.	3
Number of old mines abandoned,	3

Digitized by Google

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Lehigh and Wilkes-Barre Coal Company,	801,772
Philadelphia and Reading Coal and Iron Company,	720,549
Maryd Coal Company,	314,202
Dodson Coal Company,	289,854
Coxe Brothers and Company, Incorporated,	267,592
Lehigh Valley Coal Company,	257,133
Mill Creek Coal Company,	109,344
East Lehigh Coal Company,	44,667
Port Carbon Coal Company,	40,972
Alliance Coal Company,	32,170
Eastern Pennsylvania Coal Company,	31,716
Gorman and Campion,	31,602
Schuylkill and Lehigh Coal Company,	27,260
Total,	2,968,833

Production by Counties

Schuylkill,	2,968,833

Digitized by Google

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Lehigh and Wilkes-Barre Coal Co.,	5	2	7	22	4	26	160,354	36,444	1,192	408	1,600	228	204	54	102
Philadelphia and Reading Coal and Iron Co.,	6	2	8	21	1	22	120,092	34,312	1,190	597	1,697	198	254	67	607
Maryd Coal Co.,	.....	.....	.....	3	2	5	.....	104,734	360	148	508	.....	.....	120	74
Dodson Coal Co.,	.....	.....	.....	.....	1	1	.....	.....	409	196	605	.....	.....	.....	196
Coxe Brothers and Co., Inc.,	3	.....	3	3	1	4	89,197	89,197	354	111	465	118	.....	118	111
Lehigh Valley Coal Co.,	4	.....	4	6	.....	6	64,283	42,856	452	157	609	118	.....	75	.....
Mill Creek Coal Co.,	.....	.....	.....	3	1	4	.....	36,448	118	122	240	.....	.....	39	122
East Lehigh Coal Co.,	3	.....	3	.....	.....	.....	14,889	.....	76	60	136	25	.....	.....	.....
Port Carbon Coal Co.,	1	.....	1	.....	.....	.....	40,972	.....	66	25	91	66	.....	.....	.....
Alliance Coal Co.,	4	1	5	7	.....	7	8,043	4,506	218	92	310	55	92	31	.....
Eastern Pennsylvania Coal Co.,	.....	.....	.....	3	.....	3	.....	10,572	69	28	97	.....	.....	23	.....
Miscellaneous Companies,	.....	.....	.....	.....	.....	.....	.....	.....	86	67	153	.....	.....	.....	.....
Totals and averages for district,	26	5	31	68	10	78	114,196	43,659	4,590	1,921	6,511	177	384	67	192

Digitized by Google

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	4	....	....	....	1	....	1	....	....	....	....	....	6	23.08
Falls of slate,	....	....	....	1	....	....	....	....	....	....	....	1	2	7.69
Falls of roof,	....	....	....	....	....	1	....	....	1	....	....	....	2	7.69
Mine cars,	....	....	....	....	....	1	1	....	2	....	....	....	4	15.38
Blasts, premature and otherwise,	....	1	1	....	....	....	....	....	....	1	1	....	4	15.38
Falling into shafts,	....	....	....	....	....	2	....	....	....	....	....	....	2	7.69
Falling into slopes, etc.,	1	....	....	....	....	....	....	....	....	....	....	1	2	7.69
Crushed at batteries,	....	....	....	....	....	1	....	....	....	....	....	....	1	3.85
Concussion from fall,	1	....	....	....	....	....	....	....	....	....	....	....	1	3.85
Struck by timber,	....	....	1	....	....	....	....	....	....	....	....	....	1	3.85
Rush of water,	....	....	....	....	....	....	....	1	....	....	....	....	1	3.85
Totals,	6	1	2	1	1	5	2	1	3	1	1	2	26	100.00
Causes of Accidents Outside														
Cars,	....	....	....	....	....	....	....	1	....	....	....	....	1	20.00
Machinery,	1	....	1	....	....	....	....	....	....	....	....	....	2	40.00
Rush of culm,	2	....	....	....	....	....	....	....	....	....	....	....	2	40.00
Totals,	3	....	1	....	....	....	....	1	....	....	....	....	5	100.00
Grand totals inside and outside,	9	1	3	1	1	5	2	2	3	1	1	2	31	.....

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	3	3	1	....	....	....	....	1	....	2	1	....	11	16.18
Falls of slate,	1	....	....	....	1	....	1	....	1	....	....	2	6	8.82
Falls of roof,	....	1	....	....	....	2	....	....	....	....	....	....	3	4.41
Mine cars,	1	1	1	....	....	....	1	2	1	....	2	3	12	17.65
Explosions of gas,	....	....	....	4	3	....	....	....	....	1	3	3	14	20.59
Explosions of powder and dynamite,	....	1	....	1	....	....	....	....	....	....	....	....	2	2.94
Blasts, premature and otherwise,	....	1	....	....	....	....	....	1	2	....	2	....	6	8.82
Falling into slopes, etc.,	1	....	....	....	....	....	....	....	....	....	....	....	1	1.47
Mules,	1	1	....	....	....	....	....	1	....	....	....	....	3	4.41
Struck by timber,	1	....	2	....	....	....	....	....	....	....	....	1	4	5.88
Struck by rock,	....	....	....	....	....	1	....	....	....	1	....	....	2	2.94
Explosion of carbide,	....	....	....	....	1	....	....	....	....	....	....	....	1	1.47
By falling,	....	....	....	....	....	....	....	....	1	....	....	....	1	1.47
Burned by lamp,	....	....	....	....	....	....	....	....	....	....	1	....	1	1.47
Machinery,	....	....	....	....	....	....	....	....	....	....	1	....	1	1.47
Totals,	8	8	4	5	5	3	2	5	5	4	10	9	68	100.00
Causes of Accidents Outside														
Cars,	....	1	1	....	1	1	....	....	....	....	1	....	5	50.00
Machinery,	....	....	1	1	....	....	....	....	....	....	....	....	2	20.00
Struck by pick,	....	....	....	....	....	....	....	....	....	....	1	....	1	10.00
By falling,	....	....	....	....	....	....	1	....	....	....	1	....	2	20.00
Totals,	....	1	2	1	1	1	1	....	....	....	3	....	10	100.00
Grand totals inside and outside,	8	9	6	6	6	4	3	5	5	4	13	9	77	.....

Digitized by Google

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Mine foremen,	....	....	....	....	....	....	....	....	....	....	....	1	1
Miners,	5	1	1	1	1	4	2	1	1	....	1	1	19
Miners' laborers,	....	....	1	....	....	1	....	....	....	1	....	....	3
Drivers and runners,	....	....	....	....	....	....	....	....	1	....	....	....	1
Company men,	....	....	....	....	....	....	....	....	1	....	....	....	1
Loaders,	1	....	....	....	....	....	....	....	....	....	....	....	1
Totals,	6	1	2	1	1	5	2	1	3	1	1	2	26
Outside													
Engineers and firemen,	1	....	....	....	....	....	....	....	....	....	....	....	1
Jack men,	....	....	1	....	....	....	....	....	....	....	....	....	1
Laborers,	2	....	....	....	....	....	....	1	....	....	....	....	3
Totals,	3	....	1	....	....	....	....	1	....	....	....	....	5
Grand totals inside and outside,	9	1	3	1	1	5	2	2	3	1	1	2	31

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Fire bosses and assistants,	....	1	....	....	....	....	....	....	....	....	....	....	1
Miners,	4	4	1	3	1	....	1	2	3	3	4	4	30
Miners' laborers,	2	2	2	2	3	2	....	1	1	1	1	1	16
Drivers and runners,	1	....	....	....	1	....	1	1	1	....	1	2	8
Company men,	1	....	1	....	....	....	....	....	....	....	1	2	5
Patchers,	....	1	....	....	....	....	....	1	....	....	1	....	3
Shaft tenders,	....	....	....	....	....	1	....	....	....	....	....	....	1
Repairmen,	....	....	....	....	....	....	....	....	....	....	1	....	1
Pump runners,	....	....	....	....	....	....	....	....	....	....	1	....	1
Totals,	8	8	4	5	5	3	2	5	5	4	10	9	68
Outside													
Slate pickers (boys),	....	....	....	....	....	....	....	....	....	....	1	....	1
Patchers,	....	....	1	....	....	....	....	....	....	....	....	....	1
Jig runners,	....	....	1	....	....	....	....	....	....	....	....	....	1
Headmen,	....	....	....	....	....	....	....	....	....	....	1	....	1
Laborers,	....	1	....	1	1	1	1	....	....	....	1	....	6
Totals,	....	1	2	1	1	1	1	....	....	....	3	....	10
Grand totals inside and outside,	8	9	6	6	6	4	3	5	5	4	13	9	78

Digitized by Google

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	1	....	....	1	....	....	....	....	....	....	....	....	2
Welsh,	....	....	....	....	....	....	....	....	....	....	....	1	1
Irish,	1	....	....	....	....	....	....	....	....	....	....	....	1
Polish,	2	1	1	....	....	....	....	....	....	1	....	....	5
Hungarian,	....	....	....	....	....	1	....	....	....	....	....	....	1
Slavonian,	....	....	....	....	....	1	1	1	....	....	1	....	4
Lithuanian,	4	....	2	....	....	3	1	1	2	....	....	1	14
Russian,	1	....	....	....	1	....	....	....	....	....	....	....	2
Tyrolean,	....	....	....	....	....	....	....	....	1	....	....	....	1
Totals,	9	1	3	1	1	5	2	2	3	1	1	2	31

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	....	....	1	....	2	2	....	2	....	....	3	1	11
English,	....	1	....	....	....	....	....	....	....	....	....	....	1
German,	....	....	....	....	....	....	1	....	....	....	....	....	1
Polish,	4	2	3	2	3	....	....	2	2	1	3	4	26
Hungarian,	....	....	1	....	....	....	....	....	....	....	....	....	1
Italian,	....	....	....	2	....	1	1	....	....	....	1	1	6
Slavonian,	....	....	....	....	....	....	....	....	1	1	1	1	4
Lithuanian,	2	2	....	1	....	....	....	....	2	2	3	1	13
Russian,	2	4	1	1	1	1	....	1	....	....	2	1	14
Greek,	....	....	....	....	....	....	1	....	....	....	....	....	1
Totals,	8	9	6	6	6	4	3	5	5	4	13	9	78

Digitized by Google

TABLE I.—Continued

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Alliance Coal Co.															
Alliance Colliery:															
Alliance No. 1,†	Shaft,.....	Gaseous,..	Fan, ...	22	6	5.10	68	1.1	Guibal, ...	Steam, ...	6	58,600	51,900	73,500	210
Alliance No. 2,†	Shaft,.....	Gaseous,..	Fan, ...	10	5	5	70	.7	Sturtevant, ..	Steam,.....	....	17,500	16,500	18,900	....
Eastern Pennsylvania Coal Co.															
Silver Hill Colliery:															
Silver Hill, ...	Drift,.....	Gaseous,..	Fan, ...	12	3.8	3.5	90	1.5	Brazilian, ...	Steam,.....	2	47,000	43,000	52,000	47
Rock Town, ...	Drift,.....	Non-gas.,.	Fan, ...	8	2.8	2.5	85	1	Guibal, ...	Electricity,.	2	17,500	16,000	17,500	12
Gorman and Campion															
Bell Colliery:															
Bell, ...	Slope, ...	Non-gas.,.	Fan, ...	8	2.8	2.5	100	1	Buffalo, ...	Steam.....	....	16,500	15,800	17,000	57
Schuylkill and Lehigh Coal Co.															
Brockton Colliery:															
Brockton,‡	Slope, ...	Non-gas.,.	Fan, ...	6	2.4	2	90	1.5	Guibal, ...	Steam,.....	1	10,000	8,700	10,500	27

†Suspended indefinitely.

Digitized by Google

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Lehigh and Wilkes-Barre Coal Co.						
Audenried No. 4, ...	Schuylkill, ...	C. F. Huber, Vice President.	Wilkes-Barre, ...	Walter Fahringer, ...	Audenried, ...	C. R. R. of N. J.
Honey Brook No. 5, ...						
Philadelphia and Reading Coal and Iron Co.						
Silver Creek, ...	Schuylkill, ...	W. J. Richards, Vice President	Pottsville, ...	Reese Tasker, ... Mining Supt. George B. Hadesty, District Supt. David Jones, ... Inside Supt. William Tiley, ... Outside Supt.	Pottsville, ...	P. and R.
Eagle Hill, ...						
Maryd Coal Co.						
Maryd, ...	Schuylkill, ...	T. E. Snyder, ...	Hazleton, ...	Arthur Kennedy, ...	Maryd, ...	C. R. R. of N. J.
Dodson Coal Co.						
Morea, ...	Schuylkill, ...	J. J. Turnbach, ...	Morea Colliery, ...	William A. McGinley,	Morea Colliery, ...	Pennsylvania and Lehigh Valley
Coxe Brothers and Co., Inc.						
Oneida, ...	Schuylkill, ...	Thomas Thomas, ...	Wilkes-Barre, ...	William H. Davies,..	Hazleton, ...	Lehigh Valley
Lehigh Valley Coal Co.						
Buck Mountain, ...	Schuylkill, ...	Thomas Thomas, ...	Wilkes-Barre, ...	Thomas R. Jones, ...	Mahanoy City, ...	Lehigh Valley
Mill Creek Coal Co.						
Middle Lehigh, ...	Schuylkill, ...	T. D. Jones, ...	New Boston, ...	J. E. Jones, ...	New Boston, ...	P. and R. and Lehigh Valley
East Lehigh Coal Co.						
East Lehigh, ...	Schuylkill, ...	E. M. B. Shepp, ...	Tamaqua, ...	E. M. B. Shepp, ...	Tamaqua, ...	Lehigh and New England
Port Carbon Coal Co.						
Lucy R., ...	Schuylkill, ...	Daniel J. Slattery, ..	Port Carbon, ...	Daniel J. Slattery, ..	Port Carbon, ...	P. and R.
Alliance Coal Co.						
Alliance, ...	Schuylkill, ...	Edwin Ludlow, ...	Lansford, ...	Morgan D. Morgan,..	Silver Creek, ...	P. and R.

Digitized by Google

TABLE 1.—Continued

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Eastern Pennsylvania Coal Co.						
Silver Hill, ...	Schuylkill, ...	E. P. Fink, ...	90 West St., New York	J. V. Connor, ...	Middleport, ...	P. and R.
Gorman and Campion						
Bell, ...	Schuylkill, ...	Daniel J. Slattery, ..	Tuscarora, ...	Daniel J. Slattery, ..	Tuscarora, ...	P. and R.
Schuylkill and Lehigh Coal Co.						
Brockton, ...	Schuylkill, ...	Jacob Britton, ...	Pottsville, ...	Jacob Britton, ...	Pottsville, ...	P. and R.

Digitized by Google

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives: Number of pounds of powder used	Explosives: Number of pounds of dynamite used	Explosives: Number of pounds of permissible explosives used	Number of horses and mules
Lehigh and Wilkes-Barre Coal Co.													
Audenried No. 4,	Schuylkill,	403,032	64,491	3,722	471,245	255	842	4	14	46,675	302,863	.....	78
Strippings,		.....	.....	.....	.....	.....	22	.....	.....	.....	.....	.....	.....
Honey Brook No. 5,		317,333	13,194	.....	330,527	257	586	3	12	9,050	166,580	.....	47
Strippings,		.....	.....	.....	.....	.....	56	.....	.....	.....	.....	.....	.....
Miscellaneous,		.....	.....	.....	.....	.....	94	.....	.....	.....	.....	.....	.....
Totals,	.....	720,365	77,685	3,722	801,772	.....	1,600	7	26	55,725	469,443	.....	125
Philadelphia and Reading Coal and Iron Co.													
Silver Creek,	Schuylkill, ...	425,689	27,898	4,750	458,337	263	1,0 1	5	9	49,525	105,360	73,910	83
Eagle Hill,	Schuylkill, ...	238,549	19,447	4,216	262,212	262	676	3	13	7,275	37,721	65,290	44
Totals,	.....	664,238	47,345	8,966	720,549	.....	1,697	8	22	56,800	143,081	139,200	127
Maryd Coal Co.													
Maryd,	Schuylkill, ...	271,047	41,189	1,966	314,202	184	508	.....	5	1,700	131,429	.....	55
Dodson Coal Co.													
Morea,	Schuylkill, ...	257,094	31,800	960	289,854	298	605	.....	1	424	63,496	.....	43
Coxe Brothers and Co., Inc.													
Oneida,	Schuylkill, ...	229,728	33,703	4,161	267,592	266	465	3	4	750	104,751	.....	77

Digitized by Google

TABLE 2.—Continued

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Lehigh Valley Coal Co.													
Buck Mountain,	Schuylkill,	226,086	30,186	861	257,133	250	609	4	6	157,900	32,288	31,033	65
Mill Creek Coal Co.													
Middle Lehigh,	Schuylkill,	90,284	19,060	.....	109,344	211	240	.....	4	47,550	21,325	.....	37
East Lehigh Coal Co.													
East Lehigh,	Schuylkill,	26,273	9,000	9,394	44,667	269	136	3	.....	.....	6,750	.....	12
Port Carbon Coal Co.													
Lucy R.,	Schuylkill,	40,207	540	225	40,972	257	91	1	.....	.....	15,875	.....	6
Alliance Coal Co.													
Alliance,†	Schuylkill,	22,385	9,785	.....	32,170	54	310	5	7	475	64,822	.....	38
Eastern Pennsylvania Coal Co.													
Silver Hill,	Schuylkill,	27,630	3,842	244	31,716	224	97	.....	3	.....	9,350	.....	7
Gorman and Campion													
Bell,	Schuylkill,	27,966	3,000	636	31,602	224	91	.....	.....	.....	.....	24,000	7
Schuylkill and Lehigh Coal Co.													
Brockton,†	Schuylkill,	26,500	700	60	27,260	131	62	.....	.....	.....	350	.....	2
Grand totals,	.....	2,629,803	307,835	31,195	2,968,833	.....	6,511	31	78	321,324	1,063,460	194,233	601

†Suspended indefinitely.

Digitized by Google

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers					Locomotives			Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric							
Lehigh and Wilkes-Barre Coal Co.,	Schuylkill,	20	700	52	5,830	6,530	8	.....	1	46	6,175	13	20,663	9,745	2	3
Philadelphia and Reading Coal and Iron Co.,		20	600	22	3,050	3,650	5	3	1	68	9,074	5	5,014	1,840	2	4
Maryd Coal Co.,		.....	.....	11	1,800	1,800	4	.....	.....	16	2,450	5	5,000	1,500	.....	1
Dodson Coal Co.,		.....	.....	23	2,225	2,225	1	.....	.....	19	2,000	5	4,000	2,900	.....	2
Coxe Brothers and Co., Inc.,		.....	.....	23	3,800	3,800	4	.....	5	20	2,750	7	5,920	3,570	.....	5
Lehigh Valley Coal Co.,		.....	.....	7	2,100	2,100	3	3	.....	31	6,510	2	5,000	3,000	1	3
Mill Creek Coal Co.,		.....	.....	18	2,500	2,500	5	.....	.....	13	1,700	5	8,000	1,600	.....	1
East Lehigh Coal Co.,		.....	.....	3	650	650	.....	.....	.....	10	567	1	800	400	.....	2
Port Carbon Coal Co.,		.....	.....	2	150	150	.....	.....	2	.....	50	.....	.....	.....	1	.....
Alliance Coal Co.,		.....	.....	15	2,100	2,100	2	.....	.....	9	2,075	2	2,350	1,500	.....	1
Eastern Pennsylvania Coal Co.,		.....	.....	5	485	485	2	.....	.....	6	175	2	1,150	500	1	.....
Gorman and Campion,		.....	.....	2	350	350	.....	.....	.....	2	200	.....	.....	.....	.....	1
Schuylkill and Lehigh Coal Co.,		.....	.....	4	900	900	3	.....	.....	7	2,000	1	150	100	.....	.....
Totals,		40	1,300	187	25,940	27,240	32	3	9	247	35,726	48	58,077	26,655	8	23

Digitized by Google

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside											Outside									Grand total inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	
Lehigh and Wilkes-Barre Coal Co.,	Schuylkill,	3	5	7	324	205	63	24	17	270	264	1,192	3	7	41	73	87	1	5	191	408	1,600
Philadelphia and Reading Coal and Iron Co.,		8	20	...	459	239	70	1	4	129	265	1,190	...	5	23	55	82	16	8	315	507	1,697
Maryd Coal Co.,		1	1	6	170	112	17	3	2	22	16	360	1	2	11	25	21	...	3	85	148	508
Dodson Coal Co.,		1	1	4	72	50	28	9	6	58	150	409	1	1	20	35	20	8	3	106	196	605
Coxe Brothers and Co., Inc.,		1	8	...	199	18	23	7	1	20	72	354	...	1	7	22	...	...	4	77	111	465
Lehigh Valley Coal Co.,		2	12	...	240	88	33	8	2	13	54	452	1	1	15	21	...	6	4	109	157	609
Mill Creek Coal Co.,		1	1	...	60	26	13	1	4	8	4	118	1	1	11	27	4	8	3	67	122	240
East Lehigh Coal Co.,		1	...	1	30	25	7	1	2	9	...	76	1	1	2	7	12	...	1	26	60	136
Port Carbon Coal Co.,		1	...	...	36	9	4	2	...	14	...	66	1	1	2	7	6	...	...	13	26	91
Alliance Coal Co.,		1	5	...	68	8	13	1	4	63	55	218	1	1	6	21	...	...	2	61	92	310
Eastern Pennsylvania Coal Co.,		1	...	1	31	15	5	2	4	10	...	69	1	1	3	5	8	...	1	9	28	97
Gorman and Campion,		1	1	...	30	10	6	...	...	4	5	67	1	1	3	8	8	1	...	17	34	91
Schuylkill and Lehigh Coal Co.,		1	...	1	16	.....	2	...	1	5	3	29	1	1	2	4	2	...	1	22	33	62
Totals,		18	54	20	1,735	835	289	69	47	635	868	4,590	13	24	146	300	250	40	35	1,113	1,921	6,511

Digitized by Google

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Lehigh and Wilkes-Barre Coal Co.,	Schuylkill,	23	22	20	17	22	22	20	18	23	23	21	23	254
Philadelphia and Reading Coal and Iron Co.,		23	24	21	24	24	24	19	16	17	26	22	21	261
Maryd Coal Co.,		16	14	11	15	15	16	16	14	15	18	17	17	184
Dodson Coal Co.,		23	24	24	25	26	25	26	25	25	24	25	26	298
Coxe Brothers and Co., Inc.,		26	21	16	25	26	23	21	19	21	24	23	21	266
Lehigh Valley Coal Co.,		26	22	16	20	21	24	20	19	19	21	21	21	250
Mill Creek Coal Co.,		23	19	23	24	20	19	20	.....	2	22	20	19	211
East Lehigh Coal Co.,		13	22	20	21	23	25	24	14	25	25	23	24	269
Fort Carbon Coal Co.,		23	20	13	20	22	21	21	24	21	26	23	23	257
Alliance Coal Co.,		17	15	5	.....	.....	.....	.....	.....	.....	.....	9	8	54
Eastern Pennsylvania Coal Co.,		18	22	17	11	19	21	22	17	24	25	21	7	224
Gorman and Campion,		23	22	12	18	21	20	17	16	18	20	19	18	224
Schuylkill and Lehigh Coal Co.,		25	23	24	24	23	12	.....	.....	.....	.....	.....	.....	131

Digitized by Google

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 11	Anthony Perages,	Lithuanian,	Miner,	38	S.	....	....	Eagle Hill,	Schuylkill,	Killed by fall of coal at face of breast.
20	John Willshaw,	Polish,	Miner,	37	M.	1	4	Eagle Hill,		Killed by fall of coal from face of chute.
22	Frank Crase,	American,	Loader,	31	M.	1	1	East Lehigh,		Killed by concussion that closed the gangway fifty feet from where he was loading a mine car.
	Peter Ninus,	Lithuanian,	Miner,	34	M.	1	1	East Lehigh,		Killed by fall of coal on gangway when concussion closed gangway.
	Charles Lucus,	Lithuanian,	Miner,	27	M.	1	5	East Lehigh,		Killed by fall of coal in monkey heading when concussion closed gangway.
23	Michael Gallagher,	Irish,	Engineer,	50	M.	1	....	Alliance,		Fatally injured when his coat caught on fan and he was twirled around shaft. Outside.
25	Peter Miskitus,	Russian,	Laborer,	33	S.	....	....	Silver Creek,		Killed by being smothered by rush of culm from bank while shoveling into chute. Outside.
	Charles Shader,	Lithuanian,	Laborer,	56	M.	1	....	Silver Creek,		Killed by being smothered by rush of culm from bank while shoveling into chute. Outside.
	James Bealek,	Polish,	Miner,	26	M.	1	1	Buck Mountain,		Fatally injured by falling down manway while trying to avoid fall of coal at face of breast.
Feb. 1	Ben Becupsky,	Polish,	Miner,	25	S.	....	....	Alliance,		Killed by blast breaking through heading.
March 3	William Roseski,	Lithuanian,	Miner,	28	S.	....	....	Alliance,		Killed by blast on gangway.
18	Lewis Suldosky,	Lithuanian,	Jack man,	45	M.	1	....	Audenried No. 4,		Fatally injured by being struck by empty dipper of steam shovel in No. 1 East stripping. Outside.
26	Adam Stabanski,	Polish,	Laborer,	26	S.	....	....	Silver Creek,		Fatally injured by fall of timber on East bottom split gangway.
April 14	Gustave Skeath,	American,	Miner,	27	M.	1	....	Buck Mountain,		Killed by fall of slate in No. 61 breast while robbing pillars.
May 28	John Stansky,	Russian,	Miner,	40	M.	1	5	Honey Brook No. 5.		Fatally injured by being thrown down manway by rush of loose coal.
June 18	John Ardman,	Lithuanian,	Miner,	54	W.	....	3	Eagle Hill,		Killed by cars in tunnel.
19	John Kerchunis,	Lithuanian,	Miner,	29	S.	....	....	Lucy R.,		Killed by fall of rock on gangway.

Digitized by Google

June	21	John Korella, ...	Lithuanian,	Miner, ...	33	S.	....	....	Audenried No. 4,	Schuylkill,	Killed by being struck by piece of coal under the battery in pillar chute.
	25	Peter Mostack, ...	Slavonian, ..	Miner, ...	35	M.	1	1	Alliance, ...		Killed by falling down No. 2 shaft.
		Michael Weary, ...	Hungarian, .	Laborer, ...	28	S.	....	....	Alliance, ...		Killed by falling down No. 2 shaft.
July	10	George Rusnak, ...	Slavonian, ..	Miner, ...	49	M.	1	1	Oneida, ...		Fatally injured by being squeezed between top of loaded car and door frame or collar of set of gangway timber.
	12	Thomas Alebustea, ..	Lithuanian,	Miner, ...	36	S.	....	....	Oneida, ...		Killed by fall of coal on No. 3 heading.
Aug.	22	John Shisko, ...	Slavonian, ..	Laborer, ...	45	M.	1	4	Honey Brook No. 5.		Fatally injured while uncoupling locomotive from loaded cars. He fell under the cars and his back and shoulder were broken. Outside.
	26	William Apilitus, ...	Lithuanian,	Miner	46	M.	1	6	Silver Creek, ...		Fatally injured by rush of water from trial hole at face of gangway.
Sept.	3	Stiney Kuklis, ...	Lithuanian,	Driver, ...	19	S.	....	....	Silver Creek, ...		Killed between car and rib of tunnel on curve of West Top split vein.
	15	Simon Julius, ...	Lithuanian,	Miner, ...	33	M.	1	2	Buck Mountain,		Killed by fall of roof at face of work in pillar breast, No. 4 West Top split.
	19	Joseph Furi, ...	Tyrolean, ..	Company man.	27	S.	....	....	Honey Brook No. 5.		Killed by cars on Wharton slope, Green Mountain section.
Oct.	13	Frank Stahotsky, ...	Polish, ...	Laborer.	19	S.	....	....	Audenried No. 4,		Killed by blast at face of breast.
Nov.	4	John Bayuse, ...	Slavonian, ..	Miner, ...	44	M.	1	2	Oneida, ...		Killed by blast at face of breast.
Dec.	10	Joseph Yesavage, ...	Lithuanian,	Miner, ...	28	M.	1	1	Buck Mountain,		Fatally injured by falling down chute.
	11	William S. Davis, ...	Welsh, ...	Mine foreman.	49	M.	1	2	Audenried No. 4,		Fatally injured by fall of slate on No. 4 West Lykens gangway.

Digitized by Google

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 2	Peter Nonertavage,...	Polish,.....	Driver, ...	27	S.	Buck Mountain, ...		Kicked by mule while unhooking trace from spreader.
4	Joseph Mickey, ...	Polish,.....	Miner, ...	33	M.	Alliance, ...		Shoulder bone broken by fall of coal while sinking leg hole on high side of gangway.
7	Andrew Rencavage, ..	Lithuanian,	Laborer, ...	23	S.	Eagle Hill, ...		Face burned by gas at face of chute.
14	Michael Butts, ...	Lithuanian,	Miner, ...	24	S.	Buck Mountain, ...		Back bruised by fall of coal at face of breast.
20	Joseph Gawge, ...	Russian, ...	Miner, ...	23	S.	Audenried No. 4, ...		Contusion of head and back and internal injuries by fall of top coal at face of breast.
	Frank Stephnie, ...	Russian, ...	Company man, ...	23	S.	Audenried No. 4, ...		Leg crushed and back bruised by prop falling on him on No. 2 inside slope, Buck Mountain vein.
22	Theodore Tesluck, ...	Polish,.....	Miner, ...	29	M.	Buck Mountain, ...		Knee joint dislocated and leg bruised by fall of slate at face of breast.
27	Stiney Plesco, ...	Polish,.....	Laborer, ...	26	M.	Eagle Hill, ...	Schuylkill, .	Head cut by falling down manway.
Feb. 1	John Veches, ...	Lithuanian,	Miner, ...	24	S.	Honey Brook No. 5, ..		Leg fractured by fall of coal off pillar he was robbing.
	Alex. Sherna, ...	Russian, ...	Laborer, ...	24	S.	Audenried No. 4, ...		Leg fractured by fall of roof while loading car on platform of No. 25 breast.
8	Walter Burns, ...	English, ...	Fire boss, ...	43	M.	Buck Mountain, ...		Body bruised and face cut by mine car while putting it on track on Vulcan slope.
10	Andrew Simons, ...	Lithuanian,	Miner, ...	47	M.	Alliance, ...		Back bruised and cut by fall of top coal at face of breast.
11	George Vettar, ...	Polish,.....	Miner, ...	42	M.	Honey Brook No. 5, ..		Jaw bone fractured by flying rock from blast on gangway.
18	Michael Slevko, ...	Russian, ...	Laborer, ...	17	S.	Honey Brook No. 5, ..		Hand injured by explosion of dynamite cap.
	Michael Zinbitsky, ..	Russian, ...	Patcher, ...	17	S.	Honey Brook No. 5, ..		Lip lacerated by kick from mule.
19	Michael Bavalica, ...	Russian, ...	Laborer, ...	19	S.	Honey Brook No. 5, ..		Two fingers badly lacerated and one broken while spragging car. Outside.
25	Alex. Groditsky, ...	Polish,.....	Miner, ...	25	S	Audenried No. 4, ...		Leg fractured by fall of bony coal at face of breast.

Digitized by Google

March	1	Michael Pechock, ...	Polish, ...	Laborer, ...	20	S.	Alliance, ...			Leg broken by being struck by piece of timber thrown down from monkey heading to gangway.
		Joseph Stepera, ...	Polish, ...	Laborer, ...	22	S.	Alliance, ...			Ankle broken by fall of timber on gangway.
	3	John Hassay, ...	Polish, ...	Jig runner, ...	16	S.	Middle Lehigh, ...			Leg broken when coat caught on revolving shaft. Outside.
	6	Michael Hupsay, ...	Hungarian, .	Company man, ...	24	M.	Audenried No. 4, ...			Ankle fractured between mine cars.
		Edward Morech, ...	American, ..	Patcher, ...	18	S.	Maryd, ...			Leg injured by mine car. Outside.
	18	Michael Billa, ...	Russian, ...	Miner, ...	45	M.	Honey Brook No. 5, ..			Hand cut by fall of coal at face of chute.
April	4	Albert Tribiola, ...	Italian, ...	Laborer, ...	18	S.	Morea, ...			Arm broken when caught in spider of conveyor line. Outside.
		Michael Margra, ...	Italian, ...	Miner, ...	29	M.	Honey Brook No. 5, ..			Hands and face burned by gas.
	22	Walter Sagutko, ...	Polish, ...	Miner, ...	33	M.	Eagle Hill, ...			Hands and face burned by gas at face of No. 7 chute, West Middle split vein.
	25	George Yanashepski, ..	Lithuanian,	Miner, ...	33	S.	Silver Creek, ...			Hands and face burned by gas at face of No. 6 chute, West Middle split vein.
		John Hustes, ...	Russian, ...	Laborer, ...	27	S.	Silver Creek, ...			Hands and face burned by gas at face of No. 6 chute.
		John Digner, ...	Polish, ...	Laborer, ...	23	S.	Audenried No. 4, ...			Finger blown off and one eye destroyed by explosion of dynamite cap.
May	12	John Waters, ...	American, ..	Laborer, ...	18	S.	Audenried No. 4, ...			Fingers crushed between bumpers of empty trip of cars. Outside.
	19	George McKenzie, ...	American, ..	Driver, ...	21	S.	Silver Creek, ...			Face cut and burned by explosion of carbide gas.
	21	Peter Dunalavage, ...	Polish, ...	Miner, ...	41	S.	Eagle Hill, ...			Hands and face burned by gas at face of No. 7 chute.
		Joseph Burnosky, ...	Polish, ...	Laborer, ...	33	M.	Eagle Hill, ...	Schuylkill, .		Hand and ear burned by gas at face of No. 7 chute.
		Charles Saris, ...	Polish, ...	Laborer, ...	27	S.	Eagle Hill, ...			Face slightly burned by gas at face of No. 7 chute.
	23	Joseph Grescogen, ...	Russian, ...	Laborer, ...	45	M.	Honey Brook No. 5, ..			Head, face and jaw lacerated by fall of slate at face of breast.
June	2	Anthony Desantes, ..	Italian, ...	Laborer, ...	26	S.	Buck Mountain, ...			Thigh broken by fall of rock at face of tunnel on No. 2 level.
	4	Andrew Kasmer, ...	Russian, ...	Laborer, ...	23	M.	Honey Brook No. 5, ..			Knee fractured by fall of rock.
	12	Lester Blickley, ...	American, ..	Laborer, ...	17	S.	Maryd, ...			Both bones of leg between knee and ankle fractured by being struck by car. Outside.
	25	Thomas Jones, ...	American, ..	Shaft tender, ...	41	M.	Alliance, ...			Skull fractured and shoulder bruised by fall of rock.
July	15	James Della, ...	Italian, ...	Miner, ...	38	M.	Honey Brook No. 5, ..			Leg fractured by fall of slate at face of No. 10 breast.
	19	George Custaw, ...	Greek, ...	Laborer, ...	39	M.	Audenried No. 4, ...			Small bone of left leg broken by falling from the colliery truck wagon to the ground. Outside.
	29	Charles Herbert, ...	German, ...	Driver, ...	39	M.	Silver Creek, ...			Left leg broken by mine car.
Aug.	1	Anthony Shamanski, ..	Polish, ...	Miner, ...	27	M.	Audenried No. 4, ...			One eye destroyed and the other severely injured and head and face cut by explosion of dynamite at face of breast.
		Stephen Nimmick, ...	Russian, ...	Miner, ...	39	M.	Honey Brook No. 5, ..			Shoulder bruised and face cut by fall of coal at face of breast.

Digitized by Google

TABLE 5.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Aug. 11	Frank Klep,	American,	Patcher,	34	S.	Maryd,	Schuylkill,	Leg broken in two places between knee and ankle by derailed locomotive.
23	John Kline,	American,	Driver,	22	S.	Maryd,		Jaw broken by kick from mule.
26	William Kolish,	Polish,	Laborer,	20	M.	Audenried No. 4,		Arm broken while coupling cars.
Sept. 10	Stiney Masalonis,	Lithuanian,	Miner,	34	S.	Eagle Hill,		Face severely lacerated and hand blown off by blast.
	Peter Shacosky,	Lithuanian,	Miner,	26	S.	Eagle Hill,		Face and body lacerated by blast.
20	George Masko,	Polish,	Driver,	18	S.	Middle Lehigh,		Top of finger cut off by being caught between hitching plate of car and coupling.
	Frank Mail,	Polish,	Laborer,	40	M.	Middle Lehigh,		Two ribs fractured. He was walking down No. 11 slope when he slipped and fell on his dinner can.
27	Joseph Stretcher,	Slavonian,	Miner,	31	M.	Maryd,		Spine fractured and all ribs on left side by fall of slate at face of No. 27 breast.
Oct. 7	Harry Valentine,	Slavonian,	Laborer,	31	M.	Oneida,		Finger cut off between pieces of rock at face of breast.
8	Charles Stuchky,	Lithuanian,	Miner,	42	S.	Oneida,		Rib broken by fall of coal at face of gangway.
18	Lucas Boregoski,	Polish,	Miner,	51	S.	Buck Mountain,		Head cut and shoulder bruised by fall of coal in stump heading.
21	Basloes Bakus,	Lithuanian,	Miner,	27	M.	Eagle Hill,		Hands and face slightly burned by gas.
Nov. 4	Thomas Yasko,	Lithuanian,	Laborer,	25	S.	Silver Creek,		Eye burned by flame from lamp.
18	Jacob Robinson,	American,	Pump runner,	29	M.	Audenried No. 4,		Finger cut while repairing pump.
	Andrew Kodak,	Lithuanian,	Miner,	54	M.	Eagle Hill,		Right leg badly lacerated by blast at face of breast.
	Anthony Rolla,	Lithuanian,	Miner,	54	M.	Eagle Hill,		Right leg lacerated by blast.
	Paul Noga,	Russian,	Patcher,	19	S.	Audenried No. 4,		Rib fractured by being caught between rib of gangway and mine car.
19	Jacob Chelak,	Polish,	Slate picker,	14	S.	Honey Brook No. 5,		Elbow and wrist dislocated by falling from belt he was sliding on to platform, a distance of 16 feet. Outside.
26	Frank Rice,	American,	Repairman,	25	M.	Silver Hill,		Hands and face burned by gas.
	John Petrosh,	Polish,	Miner,	40	M.	Silver Hill,		Hands and face burned by gas.
	Andrew Hochitus,	Polish,	Miner,	48	M.	Silver Hill,		Hands and face burned by gas.

Digitized by Google

22	William Kostick, ...	Russian ...	Driver, ...	21	S.	Audenried No. 4, ...	Schuylkill, .	Leg fractured by being bumped between loaded cars.
35	Andrew Andros, ...	American, ..	Headman, ...	22	S.	Oneida, ...		Leg crushed below the knee by falling under car. Outside.
	Anthony Chiffo, ...	Italian, ...	Laborer, ...	23	S.	Eagle Hill, ...		Large toe broken by being struck with pick. Outside.
26	Frank Kopatch, ...	Slavonian, ..	Company man, ...	20	S.	Eagle Hill, ...		Ankle broken by fall of coal.
3	John Itney, ...	Italian, ...	Driver, ...	25	S.	Alliance, ...		Body squeezed between mine car and prop.
4	Albert Merook, ...	Polish, ...	Miner, ...	46	S.	Middle Lehigh, ...		Back bruised by fall of slate at face of breast.
5	Julian Gregitus, ...	Polish, ...	Miner, ...	31	M.	Silver Creek, ...		Hands and face burned by gas.
11	Michael Niadenia, ...	Polish, ...	Driver, ...	19	S.	Alliance, ...		Leg broken between mine car and prop.
	Mike Plafuo, ...	Russian, ...	Company man, ...	22	S.	Audenried No. 4, ...		Leg slightly injured by fall of slate.
22	Mike Sumog, ...	Slavonian, ..	Laborer, ...	38	M.	Silver Creek, ...		Ankle broken by fall of timber on gangway.
	Andrew Goodrich, ...	Polish, ...	Company man, ...	22	S.	Oneida, ...		Nose broken by being bumped against empty car.
31	Andrew Comceye, ...	Lithuanian,	Miner, ...	37	M.	Silver Creek, ...		Hands and face burned by gas at face of breast.
	Hugh McGovern, ...	American, ..	Miner, ...	33	M.	Silver Creek, ...		Hands and face burned by gas at face of breast.

Digitized by Google

CONDITION OF COLLIERIES

LEHIGH AND WILKES-BARRE COAL COMPANY

Audenried No. 4 Colliery.—Ventilation, drainage and condition as to safety good.

Honey Brook No. 5 Colliery.—Ventilation, drainage and condition as to safety good.

PHILADELPHIA AND READING COAL AND IRON COMPANY

Silver Creek Colliery.—Ventilation, drainage and condition as to safety good.

Eagle Hill Colliery.—Ventilation, drainage and condition as to safety good.

MARYD COAL COMPANY

Maryd Colliery.—Ventilation, drainage and condition as to safety good.

DODSON COAL COMPANY

Morea Colliery.—Ventilation, drainage and condition as to safety good.

COXE BROTHERS AND COMPANY, INCORPORATED

Oneida Colliery.—Ventilation, drainage and condition as to safety good.

LEHIGH VALLEY COAL COMPANY

Buck Mountain Colliery.—Ventilation, drainage and condition as to safety good.

MILL CREEK COAL COMPANY

Middle Lehigh Colliery.—Ventilation good, drainage fair; condition as to safety good.

EAST LEHIGH COAL COMPANY

East Lehigh Colliery.—Ventilation good; drainage fair; condition as to safety good.

PORT CARBON COAL COMPANY

Lucy R. Colliery.—Ventilation fair, drainage bad; condition as to safety good.

ALLIANCE COAL COMPANY

Alliance Colliery.—Ventilation good; drainage fair; condition as to safety good.

EASTERN PENNSYLVANIA COAL COMPANY

Silver Hill Colliery.—Ventilation fair; drainage in part of the mine bad; condition as to safety good.

GORMAN AND CAMPION

Bell Colliery.—Ventilation and drainage fair; condition as to safety good.

Digitized by Google

SCHUYLKILL AND LEHIGH COAL COMPANY

Brockton Colliery.—Ventilation fair; drainage bad; condition as to safety good.

IMPROVEMENTS

LEHIGH AND WILKES-BARRE COAL COMPANY

Audenreid No. 4 Colliery.—Drove tunnel from Lykens to Lykens vein, No. 4 west, No. 11 slope.

Drove tunnel from Buck Mountain to Lykens vein, No. 4 west, south dip, No. 1 basin.

Drove tunnel from Lykens to Mammoth vein, No. 23 slope.

Drove tunnel from Buck mountain to Buck mountain vein, No. 23 slope.

Drove tunnel from Buck Mountain to Lykens vein, No. 5 tunnel, No. 11 slope.

Completed removal of water from No. 9 basin from No. 23 slope.

Installed pumping plant in No. 21 slope, equipped with 17 by 28 by 10 by 36 inch Jeanesville duplex pump.

Honey Brook No. 5 Colliery.—Dispensed with Green Mountain separator for preparation of coal.

Sank an inside slope in No. 20 slope from No. 2 East Lykens gangway.

PHILADELPHIA AND READING COAL AND IRON COMPANY

Silver Creek Colliery.—Fireproof stable on No. 1 plane has been completed.

Fireproof stable of concrete and steel is being built on No. 4 plane level.

No. 1 cross cut, West Middle Split, No. 3 plane level, has been completed south to a local basin in the Top Split a distance of 425 feet.

Tunnel 5 by 6 feet, 195 feet long, from West Holmes gangway to air shaft, for traveling way for No. 4 plane level, has been completed.

A concrete hospital, lighted and heated by electricity, has been built on No. 4 level.

Tunnel, 105 feet long, from East Skidmore, No. 4 plane gangway at breast No. 33 to Seven Foot has been completed.

Tunnel, 121 feet long, has been driven from the East Middle Split, No. 5 plane, to the Top Split vein.

No. 9 Drift. Tunnel 105 feet long, has been driven from the Skidmore south to the Bottom Split of the Mammoth.

New drifts on the Seven Foot vein, Ledger vein basin, have been started.

A new drift on the Bottom Split of the Mammoth vein, Ledger vein basin, has been started.

A new steam tip has been installed in breaker.

A clutch drum has been installed on the coal shaft engines.

A new smith and carpenter shop has been constructed.

The new landing on coal shaft at No. 3 level has been put into service.

A new timber and supply track from main railroad at breaker has been built to coal shaft.

A 300 K. W. electric generator and engine is being installed in an addition to the power house.

Digitized by Google

An additional air locomotive has been installed on No. 3 plane level.

Tunnel, 60 foot long, from West Skidmore at breast No. 15, No. 3 plane level, to Seven Foot vein, has been completed.

In West Skidmore, No. 4 plane level, north dip, Nos. 11 and 12 have been driven through to No. 4 drift level and a gangway west will be started at an elevation of 723 to tap the Windy Harbor water.

Eagle Hill Colliery.—The Orchard north dip, Orchard south dip haulage tunnel, Primrose north dip drift, has been driven northward to the Top split of Mammoth vein. The Holmes south dip and the Four Foot veins have been cut. Gangways have been turned east and west on the Holmes north dip and Primrose south dip veins, also east on the Top split of the Mammoth vein.

A P. and R. duplex compound condensing pump, 27 by 50 by 12 by 48 inches, has been installed in the pump room.

The sump tunnel on the Sixth lift has been completed to the Bottom split of the Mammoth vein.

6 inch steam line and 12 inch column line have been placed in the shaft and connected to pump.

The fireproof stable in the Seven Foot vein on the Sixth lift has been completed and is now in use.

An air and water way ventilating and draining the Fifth lift is being driven in the Top split of the Mammoth vein east from the air shaft, a distance of 180 yards, thence south through rock, a distance of 55 yards, on a north dip of 36 degrees to the foot of the Holmes slope.

A rock airway has been driven on the Sixth lift from the Seven Foot Monkey heading at No. 1 chute, West Seven Foot gangway, to the Skidmore vein, taking care of the return air from the stable and the West Seven Foot gangway.

A new boiler plant of sterling boilers is being installed at this colliery. It consists of four boilers, having a total rating of 1,200 horse power.

MARYD COAL COMPANY

Maryd Colliery.—Drained all water from Pott's Big Creek slope on the west and Donahue old slope workings on the east, and connected them with shaft, first level workings.

Equipped second level car hoist, all steel and concrete.

Steel timbered 150 feet of second level.

Made turnouts at bottom of shaft.

Constructing stable on second level in small vein overlying Primrose, 160 feet long, of steel and concrete.

Have driven 469 foot rock tunnel, first level; 366 foot rock tunnel, second level.

Outside: Moved 200 H. P. battery sterling boilers from No. 1 slope to main boiler plant; erected and equipped fireproof emergency hospital; removed 16 foot fan from No. 1 slope and installed it on Bottom Split air hole, No. 2 basin.

DODSON COAL COMPANY

Morea Colliery.—First Level. Tunnel 137 feet long was driven between the 7 foot and the Buck Mountain gangways to allow the robbing of a portion of Seven Foot gangway on the west side. Tunnel 75 feet long was driven between Mammoth and Skidmore to al-

Digitized by Google

low the robbing of a portion of South Dip Mammoth on the west side. Tunnel 70 feet long was driven from Mammoth to South dip, Seven Foot vein of Virgin coal. Tunnel 88 feet long on intermediate level was driven from Skidmore to Skidmore west side and a series of rock holes made on this level to allow the robbing of Mammoth vein. Second level series of rock holes was made for robbing proposition. Third level, Reopened 1,750 feet of West Buck gangway and made a series of rock holes to tap Virgin coal.

Installed an electric pump on No. 4 slope and a Goyne steam plunger pump in main pump room.

Outside: Installed a clutch drum to shaft hoisting engines; rebuilt breaker plane; improved shaft for double compartment hoist; installed electric power house complete; installed electrical equipment to electrify No. 4 slope hoist and top of No. 4 slope.

COXE BROTHERS AND COMPANY, INCORPORATED

Oneida Colliery.—Outside: New concrete fan house was erected to take the place of the one destroyed by fire.

A new brick building was erected at Oneida No. 1 and one at Oneida No. 3 for use of first-aid corps.

A rock tunnel, 7 by 9 feet, and 7,027 feet long, was driven to drain the South basin in which are located Nos. 2, 3, 4, 5 and 6 slopes and No. 3 shaft. This tunnel was started from No. 8 West Buck Mountain gangway, South dip, April 16, 1912, and from the north on surface end and near the town of Nuremberg May 9, 1912. The two ends met on June 10, 1913. The grade is .3328 per cent., or about 3⅞ inches in 100 feet.

The use of the tunnel relieves the operations of nine pumps.

LEHIGH VALLEY COAL COMPANY

Buck Mountain Colliery.—No. 1 slope: The timber was removed at the mouth and concrete side walls and reinforced concrete roof put in. The slope track was extended to the third level and a turnout is being made on this level. A tunnel 593 feet long was driven on the second level from Buck Mountain vein to Bottom Split vein, North dip. A device was installed in the stable whereby all the mules can be released at one time in case of emergency.

Vulcan Slope: A tunnel 692 feet long was driven on the fifth level from Skidmore vein, North dip, to Buck Mountain vein, South dip. On sixth level a tunnel 377 feet long was driven from Buck Mountain to the Seven Foot vein, North dip. A tile overcast on fanway was put in on the third level, and tile stoppings are being put in the fanway.

A device was installed in the stable whereby all the mules can be released at one time in case of emergency.

MILL CREEK COAL COMPANY

Middle Lehigh Colliery.—Stripped a portion of outcrop, Buck Mountain vein, east of No. 3 slope. Stripped Top Split vein to basin, western portion. Built new flume across basin to convey water from pumps to creek channel. Continued sinking No. 11 slope. Iron posts and steel mangers placed in Second lift stables, and iron posts and concrete mangers in first lift stable. Erected a new head house at foot of conveyor leading to breaker. Moved platform and principal rolls from breaker to head house.

Digitized by Google

PORT CARBON COAL COMPANY

Lucy R. Colliery.—Continued tunnel from Holmes vein to Primrose vein, 137 feet north. Tunnel driven from Tunnel vein to Rabbit vein, 86 feet north.

ALLIANCE COAL COMPANY

Alliance Colliery.—A tunnel has been driven across the measures at the bottom of No. 1 shaft, from the Bottom Bench to the Skidmore gangway, 142 feet, to take the place of the old west side turnout in the Bottom Bench. The Skidmore gangway, South basin, No. 1 shaft level, east from the North Dale tunnel, has been driven through a rock fault for a haulage way, a distance of 300 feet.

Balance plane across pitch from East Skidmore gangway, North Dale tunnel, North basin, to the counter level, has been completed, a distance of 540 feet on a 30-degree pitch.

The Barney pits and Drum pit are walled through with concrete.

The curved tunnel at foot of plane, for the loaded car track, was driven a distance of 155 feet.

The double track tunnel at top of plane was driven to the Seven Foot vein, 120 feet.

Haulage tunnel west of plane from Skidmore to Seven Foot on plane level was driven 67 feet.

Haulage gangway in Seven Foot at top of plane has been driven 295 feet.

Tunnel from face of Seven Foot gangway at top of plane has been driven south to the Skidmore and Bottom Bench veins, 88 feet.

Rock hole 60 feet long driven in Skidmore west of plane to Bottom Bench for ventilation.

Rock hole 63 feet long driven in West Skidmore, South basin, No. 1 shaft level, to Bottom Bench.

Tunnel on east side in North Dale water level driven from North dip of Bottom Bench to South dip of Bottom Bench, 75 feet.

North Dale Basin: New airway driven on the Skidmore vein to the fan shaft at surface, a distance of 572 feet from the plane level gangway, crossing the West Skidmore gangway in the water level, with a new overcast of concrete and steel timber construction. The fan shaft at the surface is 21 feet deep, 10 by 10 feet.

A new concrete hospital, 20 by 8 feet, was erected on No. 1 shaft level in old No. 1 slope tunnel.

No. 2 shaft has been sunk from the surface, a distance of 260 feet, connecting with the old inside shaft at the Diamond vein, making a total depth of 1,386 feet. The new part has been sunk two and one-half compartments, the extra one-half compartment to be used as a pump way from the proposed Diamond level. The water from this shaft is now being hoisted directly to the surface in 2,000 gallon tanks.

Outside: Built corrugated iron engine house, 24 by 18 feet, for dirt plane engines, replacing old one destroyed by fire; corrugated iron house, 25 by 10 feet, for new La France chemical engine and water tank; corrugated iron pump house, 24 by 18 feet, for boiler feed pump and new 2,400-horsepower Cochrane heater.

Installed 400 feet of exhaust steam lines of galvanized spiral riveted pipe from No. 1 shaft engines, compressor and Holmes fan

to Cochrane heater. New head frame erected over No. 2 shaft for hoisting water to surface. Reinforced concrete dam for fresh water, erected at North Dale ravine, capacity 250,000 gallons.

Two thousand one hundred feet 6-inch Wychoof wooden pipe line from North Dale dam to tank at boiler house.

A new 10-foot Sturtevant fan and engine have been placed on North Dale Skidmore airway, and concrete house erected.

Six new 30-foot stacks have been erected at boiler house.

A new 14-inch cast iron header line has been run along the tops of the boilers and new connections made from the boilers.

The old stone house near the boiler house, formerly used as dwelling, has been converted into a supply house and office for outside and inside foremen. The lamp house has also been moved into this building.

Two thousand four hundred feet of 4-inch wrought iron pipe has been placed from the boiler house to the North Dale fan and covered with cellular pipe covering.

EASTERN PENNSYLVANIA COAL COMPANY

Silver Hill Colliery.—Rock Town tunnel was reopened and bed of tunnel cut down to grade. Work has been commenced in the following veins: Lykens Nos. 1 and 2, Buck Mountain Bed A and Skidmore veins, all on North dip.

Slope on South dip has been extended below No. 2 level, 93 feet.

A concrete dam has been built in South tunnel, No. 2 level, to control the water in time of heavy rain.

Outside: An addition, 12 by 50 feet, has been made to each side of the breaker, the screens torn out and double deck shakers put in to replace them.

A ditch, 1,100 feet long, has been cut to conduct the stream of water around the breach holes and back to its regular course.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in Union Hall, Pottsville, March 25 and 26.

The Board of Examiners was composed of John Curran, Mine Inspector, Pottsville; Luke Stiles, Superintendent, Cumbola; William J. Brennan, Miner, Port Carbon.

The following persons passed a satisfactory examination and were granted certificates:

MINE FOREMEN

Joseph Garland, John Gardiner, Lansford; David Newton, Thomas H. Newton, Summit Hill; Thomas J. Evans, Burk Harvey, Coaldale; Conrad Dresch, Mahanoy City.

ASSISTANT MINE FOREMEN

Harry Reese, Thomas P. Evans, Bernard Sharp, Tamaqua; William P. Gardiner, Samuel Watkins, Robert C. Davidson, Edward C Boyle, David J. Willingham, Charles Rotett, William E. Watkin

Digitized by Google

SUMMARY OF STATISTICS

Number of collieries,	18
Number of mines,	52
Number of mines in operation,	51
Number of tons of coal shipped to market,	2,753,648
Number of tons used at mines for steam and heat,	480,492
Number of tons sold to local trade and used by employes,	36,042
Number of tons produced,	3,270,182
Number of tons produced by compressed air machines,	.....
Number of tons produced by electrical machines,	.....
Number of persons employed inside of mines,	5,229
Number of persons employed outside,	2,596
Number of fatal accidents inside of mines,	15
Number of fatal accidents outside,	3
Number of non-fatal accidents inside of mines,	40
Number of non-fatal accidents outside,	3
Number of tons of coal produced per fatal accident inside,	218,012
Number of tons produced per fatal accident outside,	1,090,061
Number of tons produced per fatal accident inside and outside,	181,677
Number of persons employed per fatal accident inside,	349
Number of persons employed per fatal accident outside,	865
Number of persons employed per fatal accident inside and outside,	435
Number of persons employed per non-fatal accident inside,	131
Number of persons employed per non-fatal accident outside,	865
Number of persons employed per non-fatal accident inside and outside,	182
Number of wives made widows,	11
Number of children made orphans,	21
Number of steam locomotives used inside of mines,	2
Number of steam locomotives used outside,	41
Number of compressed air locomotives used inside,	1
Number of compressed air locomotives used outside,	.....
Number of electric motors used inside,	19
Number of electric motors used outside,	.....
Number of fans in use,	46
Number of furnaces in use,	.....
Number of gaseous mines in operation,	31
Number of non-gaseous mines in operation,	20
Number of new mines opened,	2
Number of old mines abandoned,	1

Digitized by Google

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Philadelphia and Reading Coal and Iron Company,	1,415,214
Lytle Coal Company,	387,075
Pine Hill Coal Company,	342,258
St. Clair Coal Company,	337,661
Oak Hill Coal Company,	275,248
Buck Run Coal Company,	215,807
Darkwater Coal Company,	103,999
White and Company,	52,681
Mt. Hope Coal Company,	44,748
Wolf Creek Coal Company,	42,553
John H. Davis Company,	31,893
Butcher Creek Coal Company,	16,128
Black Heath Coal Company,	4,917
Total,	3,270,182

Production by Counties

Schuylkill,	3,270,182

Digitized by Google

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	....	....	4	....	2	1	2	1	1	....	....	....	11
Miners' laborers,	....	....	1	....	....	....	....	1	....	1	....	1	4
Totals,	....	....	5	....	2	1	2	2	1	1	....	1	15
Outside													
Slatepickers (boys),	....	....	....	....	....	....	....	....	....	1	....	....	1
Laborers,	....	....	....	1	....	....	....	....	....	1	....	....	2
Totals,	....	....	....	1	....	....	....	....	....	2	....	....	3
Grand totals inside and outside,	....	....	5	1	2	1	2	2	1	3	....	1	18

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Assistant mine foremen,	....	....	....	1	....	....	....	....	....	....	....	....	1
Miners,	2	2	5	3	2	4	....	3	1	1	1	3	27
Miners' laborers,	....	....	....	4	....	1	....	....	1	....	....	....	6
Drivers and runners,	1	....	....	....	....	1	1	....	1	....	....	....	4
Loaders,	....	....	....	....	....	....	....	....	....	....	1	....	1
Motormen,	....	....	....	....	....	....	....	....	1	....	....	....	1
Totals,	3	2	5	8	2	6	1	3	4	1	2	3	40
Outside													
Laborers,	....	1	....	....	....	....	....	....	....	1	....	1	3
Totals,	....	1	....	....	....	....	....	....	....	1	....	1	3
Grand totals inside and outside,	3	3	5	8	2	6	1	3	4	2	2	4	43

Digitized by Google

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	....	....	....	....	....	....	....	1	....	1	....	....	2
Irish,	....	....	....	1	....	....	....	....	....	....	....	....	1
Polish,	....	....	1	....	1	....	....	....	....	....	....	....	2
Hungarian,	....	....	....	....	....	....	....	....	....	1	....	....	1
Italian,	....	....	1	....	....	....	....	....	....	1	....	....	2
Slavonian,	....	....	2	....	....	1	....	....	....	....	....	1	4
Lithuanian,	....	....	1	....	....	....	1	1	1	....	....	....	4
Greek,	....	....	....	....	1	....	....	....	....	....	....	....	1
Swedish,	....	....	....	....	....	....	1	....	....	....	....	....	1
Totals,	....	....	5	1	2	1	2	2	1	3	....	1	18

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	....	....	1	1	2	....	....	1	....	1	1	....	7
Polish,	....	....	....	1	....	....	....	....	1	1	....	1	4
Italian,	....	1	3	2	....	....	....	....	....	....	....	....	6
Slavonian,	2	1	1	....	....	2	1	....	1	....	1	2	11
Lithuanian,	....	....	....	1	....	1	....	2	2	....	....	....	6
Russian,	1	1	....	2	....	3	....	....	....	....	....	1	8
Greek,	....	....	....	1	....	....	....	....	....	....	....	....	1
Totals,	3	3	5	8	2	6	1	3	4	2	2	4	43

Digitized by Google

TABLE I.—Continued

Names of Operators and and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Darkwater Coal Co.															
Newcastle Colliery:															
Newcastle,	Slope,	Gaseous,	Fan,	20	6	6	70	1.5	Vulcan,	Steam,	2	25,000	} 30,000	43,500	81
Newcastle,	Slope,	Gaseous,	Fan,	10	3	3	80	1.5	Vulcan,	Steam,	4	15,000			
White and Co.															
Howard Colliery:															
Howard,	Slope,	Gaseous,	Fan,	12	4.2	3.4	60	1	Guibal,	Steam,	1	24,000	10,500	26,500	26
Howard,	Slope,	Gaseous,	Fan,	10	3	3.8	70	1	Guibal,	Steam,	3	20,000	17,000	22,275	
Mt. Hope Coal Co.															
Mt. Hope Colliery:															
Mt. Hope No. 2,	Slope,	Non-gas.,	Natural,	.....	.....	.....	.....	.....	.....	.....	..	.....	.....	.....	87
Mt. Hope No. 8,	Slope,														
Mt. Hope No. 9,	Slope,														
Mt. Hope No. 10,	Slope,														
Mt. Hope No. 11,	Slope,														
John H. Davis Co.															
Ellsworth Colliery:															
Ellsworth,	Slope,	Non-gas.,	Fan,	6	1.8	1.1	250	1.5	Buffalo,	Steam,	1	6,000	5,000	7,000	21
Butcher Creek Coal Co.															
Laurel Run Colliery:															
Laurel Run,	Slope,	Non-gas.,	} Natural,	.....	.....	.....	.....	.....	.....	.....	..	.....	.....	.....	29
Laurel Run,	Drift,	Non-gas.,													

Digitized by Google

| | | |

...—Continued

Names of Operators and Collieries	County	Name of Superintendent		Nam...	Power used	Number of splits	Number of cubic fe... minute entering th...	Total number of cubic fe... per minute circulating ... splits	Number of cubic feet of air minute passing out at outl...	Number of persons employed inside
Philadelphia and Reading Coal and Iron Co.										
Otto,										
Wadesville,										
Pine Knot,										
Phoenix Park,	Schuylkill, ...	W. J. Richards, Vice President,	Pottsville,	Reese Tasks,						
Glendower,										
John Veith,										
Thomaston,										
Anchor Washery,										
Lytle Coal Co.										
Lytle,	Schuylkill, ...	Robert A. Quin,	Wilkes-Barre,	David J. Randall, ...	Minersville,					
Pine Hill Coal Co.										
Pine Hill	Schuylkill, ...	C. B. Sturgis,	Scranton,	George M. Keiser, ...	Minersville,					81
St. Clair Coal Co.										
St. Clair,	Schuylkill, ...			W. T. Smythe,	Pottsville,					Philad... ing
Oak Hill Coal Co.										
Oak Hill,	Schuylkill, ...	Thomas B. Righter,	Mt. Carmel,	George Jeffreys,	Minersville,					Philadelphia ing
Buck Run Coal Co.										
Buck Run,	Schuylkill, ...	James B. Neale,	Minersville,	George Hay,	Minersville,					Philadelphia and ing
Darkwater Coal Co.										
Newcastle,	Schuylkill, ...	James B. Neale,	Minersville,	John Conway,	Pottsville,					Pennsylvania
White and Co.										
Howard,	Schuylkill, ...	Richard White,	Pottsville,							Philadelphia and Read- ing
Mt. Hope Coal Co.										
Mt. Hope,	Schuylkill, ...	I. D. Beahme,	Port Carbon,							Philadelphia and Read- ing
Wolf Creek Coal Co.										
Wolf Creek Washery,	Schuylkill, ...	I. D. Beahme,	Port Carbon,	Allen F. Keller,	Minersville,					Philadelphia and Read- ing

Digitized by Google

John H. Davis Co.						
Ellsworth,	Schuylkill,	John H. Davis,	St. Clair,			
Butcher Creek Coal Co.						
Laurel Run,	Schuylkill,	L. J. Whims,	St. Clair,			
Black Heath Coal Co.						
Black Heath,	Schuylkill,			James Scott,	Minersville,	Pot

Digitized by Google

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Philadelphia and Reading Coal and Iron Co.						
Otto,	Schuylkill, ...	W. J. Richards, Vice President,	Pottsville, ...	Reese Tasker, ...	Pottsville, ...	Philadelphia and Reading
Wadesville,						
Pine Knot,						
Phoenix Park,						
Glendower,						
John Veith,						
Thomaston,						
Anchor Washery,						
Lytle Coal Co.						
Lytle,	Schuylkill, ...	Robert A. Quin, ...	Wilkes-Barre, ...	David J. Randall, ...	Minersville, ...	Pennsylvania
Pine Hill Coal Co.						
Pine Hill	Schuylkill, ...	C. B. Sturgis, ...	Scranton, ...	George M. Keiser, ...	Minersville, ...	Pennsylvania
St. Clair Coal Co.						
St. Clair,	Schuylkill, ...	.....	.....	W. T. Smythe, ...	Pottsville, ...	Philadelphia and Reading
Oak Hill Coal Co.						
Oak Hill,	Schuylkill, ...	Thomas B. Righter,..	Mt. Carmel, ...	George Jeffreys, ...	Minersville, ...	Philadelphia and Reading
Buck Run Coal Co.						
Buck Run,	Schuylkill, ...	James B. Neale, ...	Minersville, ...	George Hay, ...	Minersville, ...	Philadelphia and Reading
Darkwater Coal Co.						
Newcastle,	Schuylkill, ...	James B. Neale, ...	Minersville, ...	John Conway, ...	Pottsville, ...	Pennsylvania
White and Co.						
Howard,	Schuylkill, ...	Richard White, ...	Pottsville, ...	.....	.....	Philadelphia and Reading
Mt. Hope Coal Co.						
Mt. Hope,	Schuylkill, ...	I. D. Beahme, ...	Port Carbon, ...	.....	.....	Philadelphia and Reading
Wolf Creek Coal Co.						
Wolf Creek Washery,	Schuylkill, ...	I. D. Beahme, ...	Port Carbon, ...	Allen F. Keller, ...	Minersville, ...	Philadelphia and Reading

Digitized by Google

John H. Davis Co.						
Ellsworth,	Schuylkill,	John H. Davis,	St. Clair,			Philadelphia and Reading
Butcher Creek Coal Co.						
Laurel Run,	Schuylkill,	L. J. Whims,	St. Clair,			Philadelphia and Reading
Black Heath Coal Co.						
Black Heath,	Schuylkill,			James Scott,	Minersville,	Pennsylvania

Digitized by Google

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at colliories for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Philadelphia and Reading Coal and Iron Co.													
Otto,	Schuylkill, ...	277,914	66,634	1,589	346,137	259	764	2	4	9,800	56,570	62,950	90
Wadesville,		286,064	37,575	2,283	325,912	256	807	1	3	11,375	34,429	54,288	56
Pine Knot,		227,910	39,504	1,137	268,551	268	564	.....	1	1,175	181,004	32,533	58
Phoenix Park,		199,125	36,032	2,101	237,258	266	681	1	4	3,475	18,063	88,088	63
Glendownr,		165,263	20,029	.....	185,292	268	377	.....	1	30,750	122,860	6,772	45
John Veith,		44,368	.....	.....	44,368	*	182	1	3	.....	8,976	21,850	16
Thomaston,		.....	7,448	.....	7,448	†	240	.....	1	.....	.....	.....	.....
Anchor Washery,		.....	248	.....	248	.....	3	.....	.....	.....	.....	.....	.....
Totals,	.....	1,200,634	207,470	7,110	1,415,214	.....	3,618	5	17	56,575	421,892	266,481	328
Lytle Coal Co.													
Lytle,	Schuylkill, ...	297,502	79,210	10,363	387,075	281	333	4	13	.....	42,572	11,305	70
Pine Hill Coal Co.													
Pine Hill,	Schuylkill, ...	309,086	32,000	1,172	342,258	295	731	2	.....	52,500	.....	53,375	35
St. Clair Coal Co.													
St. Clair,	Schuylkill, ...	264,894	63,000	9,767	337,661	243	710	2	3	246,175	47,360	.....	45
Oak Hill Coal Co.													
Oak Hill,	Schuylkill, ...	243,778	30,000	1,470	275,248	264	725	2	3	8,125	40,525	106,650	55

*Coal prepared at Otto Breaker.
†Coal prepared at Pine Knot Breaker.

Digitized by Google

Buck Run Coal Co.													
Buck Run,	Schuylkill, ...	186,065	29,000	742	215,807	274	470	2	1	12,475	95,775	.....	27
Darkwater Coal Co.													
Newcastle,	Schuylkill, ...	84,702	18,250	1,047	103,999	266	203	1	2	125	29,750	.....	14
White and Co.													
Howard,	Schuylkill, ...	44,777	7,500	404	52,681	279	176	.....	2	200	18,000	.....	14
Mt. Hope Coal Co.													
Mt. Hope,	Schuylkill, ...	39,583	4,250	915	44,748	181	188	.....	2	500	4,150	.....	9
Wolf Creek Coal Co.													
Wolf Creek Washery,	Schuylkill, ...	40,753	1,800	.....	42,553	299	20	.....	.....	.....	.....	.....	.....
John H. Davis Co.													
Ellsworth,	Schuylkill, ...	27,865	3,800	228	31,893	290	90	.....	.....	700	14,600	.....	5
Butcher Creek Coal Co.													
Laurel Run,	Schuylkill, ...	12,436	3,600	92	16,128	222	47	.....	.....	.....	2,800	.....	4
Black Heath Coal Co.													
Black Heath,	Schuylkill, ...	1,573	612	2,732	4,917	306	14	.....	.....	500	3,000	.....	2
Grand totals,	.....	2,753,649	480,492	36,042	3,270,182	.....	7,825	18	43	377,875	720,424	438,311	608

Digitized by Google

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Philadelphia and Reading Coal and Iron Co.,	Schuylkill,	25	24	19	25	25	25	18	15	18	26	23	21	264
Lytle Coal Co.,		24	24	22	21	24	25	22	24	24	25	23	23	261
Pine Hill Coal Co.,		25	24	24	25	24	25	25	24	25	27	23	24	296
St. Clair Coal Co.,		22	20	26	21	22	21	18	18	21	20	20	20	248
Oak Hill Coal Co.,		25	21	18	17	16	22	18	24	24	26	23	23	264
Buck Run Coal Co.,		22	24	17	19	24	23	23	24	23	26	22	24	274
Darkwater Coal Co.,		22	23	20	21	24	24	22	24	23	19	21	22	256
White and Co.,		21	21	23	21	23	21	24	25	25	26	23	25	279
Mt. Hope Coal Co.,		24	23	17	20	18	20	16	.....	.....	10	25	24	181
Wolf Creek Coal Co.,		26	24	26	25	26	25	25	25	25	26	23	25	299
John H. Davis Co.,		24	24	21	24	23	25	24	25	25	26	24	25	290
Batcher Creek Coal Co.,		18	20	9	8	20	23	6	22	24	26	24	22	222
Black Heath Coal Co.,		27	24	26	26	26	25	23	26	26	26	29	24	306

Digitized by Google

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
March 11	Peter Sterhinsz, ...	Lithuanian,	Miner, ...	48	M.	1	2	Oak Hill, ...		Fatally injured by fall of top slate near face of breast.
14	Clemence Markowitz,.	Polish,.....	Miner, ...	56	M.	1	1	St. Clair, ...		Killed by explosion of powder at face of breast.
25	Daniel Donato, ...	Italian, ...	Laborer, ...	28	S.	....	....	Pine Hill, ...		Killed by mine car on slope.
27	George Shimskie, ...	Slavonian, ..	Miner, ...	38	M.	1	5	Buck Run, ...		Suffocated by rush of coal and water from East North Crosby counter chute.
	Nicholas Vida, ...	Slavonian, ..	Miner, ...	28	M.	1	1	Buck Run, ...		
April 12	John Dougherty, ...	Irish, ...	Laborer, ...	60	M.	1	....	Lytle, ...		Fatally injured between Barney and mine car at foot of coal plane. Outside.
May 17	Lawrence Tarnosky, ..	Polish,.....	Miner, ...	37	M.	1	3	Otto, ...		Killed by being suffocated by gas at face of chute in East Top split of Mammoth.
17	Stephen Bender, ...	Greek, ...	Miner, ...	39	M.	1	3	Phoenix Park, ..		Fatally burned by explosion of gas at face of working place.
June 6	Andrew Whiteash, ...	Slavonian, ..	Miner, ...	39	M.	1	3	Oak Hill, ...		Fatally burned by explosion of gas at face of breast.
July 10	John Wassil, ...	Lithuanian,	Miner, ...	24	S.	....	....	Lytle, ...	Schuylkill, ..	Killed by fall of coal while removing pillars.
30	John Axell, ...	Swedish,....	Miner, ...	53	S.	....	....	St. Clair, ...		Fatally injured by fall of coal at face of breast.
Aug. 11	William Ambrose, ...	Lithuanian,	Miner, ...	65	M.	1	2	Lytle, ...		Killed by fall of coal along side of pillar.
12	Daniel Cahill, ...	American, ..	Laborer, ...	30	S.	....	....	Pine Hill, ...		Killed by fall of slate near face of breast while pushing coal in chute.
Sept. 19	Enoch Osallus, ...	Lithuanian,	Miner, ...	25	S.	....	....	Lytle, ...		Fatally burned by gas at face of breast.
Oct. 2	Frank Gieltz, ...	Hungarian, .	Slatepicker, .	14	S.	....	....	Newcastle, ...		Suffocated in pea coal chute while playing with two other boys. Outside.
14	Anthony Borrell, ...	Italian, ...	Laborer, ...	25	M.	1	....	John Veith, ...		Killed by fall of slate on gangway while shoveling coal.
31	John Schaeffer, ...	American, ..	Laborer, ...	23	S.	....	....	Wadesville, ...		Fatally injured. Skull fractured by being struck by lever used for dumping cars. Outside.
Dec. 13	Charles Tuhuranto, ...	Slavonian, ..	Laborer, ...	27	M.	1	1	Otto, ...		Killed by fall of slate at face of gangway while shoveling coal in car.

Digitized by Google

CONDITION OF COLLIERIES

PHILADELPHIA AND READING COAL AND IRON COMPANY

Otto, Wadesville, Pine Knot, Phoenix Park, Glendower, John Veith, Thomaston Collieries.—Ventilation, drainage and condition as to safety good.

LYTLE COAL COMPANY

Lytle Colliery.—Ventilation and condition as to safety good; drainage good in the greater part of the colliery; fair in the remainder.

PINE HILL COAL COMPANY

Pine Hill Colliery.—Ventilation, drainage and condition as to safety good.

ST. CLAIR COAL COMPANY

St. Clair Colliery.—Ventilation, drainage and condition as to safety good.

OAK HILL COAL COMPANY

Oak Hill Colliery.—Ventilation and condition as to safety good. The drainage has been improved, but it will require considerable labor to bring it up to requirements.

BUCK RUN COAL COMPANY

Buck Run Colliery.—Ventilation and condition as to safety good; drainage fair.

DARKWATER COAL COMPANY

Newcastle Colliery.—Ventilation and condition as to safety good; drainage fair.

WHITE AND COMPANY

Howard Colliery.—Ventilation and drainage fair; condition as to safety good.

MT. HOPE COAL COMPANY

Mt. Hope Colliery.—Ventilation fair; condition as to safety and drainage good.

JOHN H. DAVIS COMPANY

Ellsworth Colliery.—Ventilation fair; condition as to safety and drainage good.

BUTCHER CREEK COAL COMPANY

Laurel Run Colliery.—Ventilation and drainage fair; condition as to safety good.

BLACK HEATH COAL COMPANY

Black Heath Colliery.—Ventilation fair; condition as to safety and drainage good.

Digitized by Google

IMPROVEMENTS

PHILADELPHIA AND READING COAL AND IRON COMPANY

Wadesville Colliery.—The Beechwood water level tunnel was reopened to the Buck Mountain vein. Gangways are turned west on the Primrose vein and east and west on the Skidmore and Buck Mountain veins.

A tunnel is being driven north from the West Primrose gangway, Beechwood water level tunnel, to the Holmes vein. Estimated distance, 53 yards.

A three compartment shaft, each compartment 7 feet by 12 feet 8 inches, is being sunk at Beechwood to the Seven Foot vein, an estimated distance of 565 feet.

Mammoth vein crop is being stripped for a distance of 1,600 feet east and 200 feet west of the old Beechwood slope.

Vulcan slope has been sunk to the fourth lift and gangways turned east and west.

A traveling way is being driven from No. 2 lift, Vulcan slope, to surface.

Holmes slope is being continued to the fourth lift.

Tunnel in Holmes slope has been continued to the Seven Foot vein. Gangways have been turned east and west.

Primrose slope has been sunk to the fourth lift. A gangway has been turned east at this point.

Tunnel from the East Seven Foot, shaft level gangway, is being driven to the Bottom split of the Mammoth vein. Estimated length 90 yards.

A fireproof stable is being constructed in the East Seven Foot gangway, shaft level.

Rock ventilating hole has been completed from No. 20 breast, No. 1 lift, East Skidmore gangway, West Skidmore plane to the east bottom split of the Mammoth gangway, No. 3 tunnel, No. 2 lift, West Skidmore plane.

Tunnel was driven from the West Skidmore gangway, No. 1 lift, East Skidmore plane, to the Seven Foot vein, and gangways turned east and west.

Rock ventilating hole was driven from breast No. 37, East Skidmore gangway, No. 1 lift, West Skidmore plane to No. 3 tunnel bottom split gangway, No. 2 lift, West Skidmore plane.

Rock ventilating hole has been driven from breast No. 7 in the West Skidmore gangway, shaft level to No. 2 tunnel gangway on the bottom split vein, No. 1 lift, West Skidmore plane.

Rock ventilating hole was driven from breast No. 86, West Skidmore gangway, shaft level, to the top split of Mammoth gangway, No. 1 tunnel, No. 1 lift, West Skidmore plane.

An ash wash has been installed at the main boiler plant.

A landing has been made in the Orchard vein from the South compartment of the tender shaft, and a gangway is being driven east.

Digitized by Google

BUCK RUN COAL COMPANY

Buck Run Colliery.—Built one two-story wash house, 18 by 20 feet, with hot and cold shower baths and 34 lockers. Installed one 330-horsepower Babcock and Wilcox boiler, one 550-volt, 275 kilowatt A. C. Curtis generator, one No. 11 Sirocco type fan of 50,000 cubic feet capacity, driven by 25 A. P. A. C. motor to ventilate the west side of the second and third levels.

Steam engine on Crosby fan replaced by an A. C. motor of 7½ horsepower.

Three inside pump rooms timbered and lagged with steel.

Installed one 400-gallon Aldrich triplex pump, electrically driven, on third level in new pump room in the solid rock.

Placed two 8-ton electric haulage motors in service.

The entire east side of the breaker was rebuilt and two new Christ jigs installed with new picking tables and chutes for prepared sizes.

One 12-ton locomotive was placed on rock bank and a new rock hopper and head frame built at the head of the breaker refuse plane.

One 8-inch bore hole was drilled west of the breaker to carry a 7-inch O. D. pipe delivering steam to the inside slope engines and third level steam pump. Also one 8-inch bore hole was cased and insulated to carry the 550-volt A. C. current wires to the new electric pump on the third level.

DARKWATER COAL COMPANY

New Castle Colliery.—Tender slope was sunk 170 feet from the second to the third level and gangways driven east and west in the Skidmore vein. Three tunnels were driven from three gangways to tap the Mammoth vein, and the water in the Mammoth vein was tapped by numerous bore holes and is now being drawn off.

Built pump room, 15 by 48 by 15 feet high in the Leader veins on the third level, timbered with heavy steel timber and lagged with steel rails. Installed a Scranton compound duplex pump, 16 by 32 by 14 by 48 inches with the necessary tail and column pipe for delivering the water to the second level.

A 12-inch bore hole was drilled from the surface to the second level and an 8-inch steam line placed in it to carry steam to the inside pump. A new 10-foot Guibal type fan, steam driven, was placed on the North dip, Skidmore vein.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in Union Hall, Pottsville, March 25 and 26. The Board of Examiners was composed of Michael J. Brennan, Inspector, Pottsville; James B. Neale, Superintendent, Minersville; Timothy Brennan, Miner, Heckscherville; Henry Gottschall, Miner, Branchdale.

The following persons passed a satisfactory examination and were granted certificates:

MINE FOREMEN

Charles Wetzel, Branchdale; James E. Scott, John H. Parnell, Minersville.

Digitized by Google

ASSISTANT MINE FOREMEN

John Mulhall, Duncott; David Hinkin, James Patticher, Joseph A. Munster, Henry Parnell, William Truscott, William J. Mackey, Minersville; Thomas Quinn, Branchdale; Andrew McMenamin, John Schreffler, Pottsville; Daniel Holahan, Port Carbon; Joseph Harrison, John Parry, Frank Gittins, Henry Dress, Wade; John L. Krebs, St. Clair.

Digitized by Google

SUMMARY OF STATISTICS

Number of collieries,	7
Number of mines,	27
Number of mines in operation,	24
Number of tons of coal shipped to market,	1,964,723
Number of tons used at mines for steam and heat,	415,814
Number of tons sold to local trade and used by employes,	36,378
Number of tons produced,	2,416,915
Number of tons produced by compressed air machines,	.....
Number of tons produced by electrical machines,	.....
Number of persons employed inside of mines,	4,519
Number of persons employed outside,	1,526
Number of fatal accidents inside of mines,	33
Number of fatal accidents outside,	3
Number of non-fatal accidents inside of mines,	36
Number of non-fatal accidents outside,	2
Number of tons of coal produced per fatal accident inside,	73,240
Number of tons produced per fatal accident outside,	805,638
Number of tons produced per fatal accident inside and outside,	67,137
Number of persons employed per fatal accident inside,	137
Number of persons employed per fatal accident outside,	509
Number of persons employed per fatal accident inside and outside,	168
Number of persons employed per non-fatal accident inside,	126
Number of persons employed per non-fatal accident outside,	763
Number of persons employed per non-fatal accident inside and outside,	159
Number of wives made widows,	26
Number of children made orphans,	57
Number of steam locomotives used inside of mines,	.....
Number of steam locomotives used outside,	17
Number of compressed air locomotives used inside,	.....
Number of compressed air locomotives used outside,	.....
Number of electric motors used inside,	22
Number of electric motors used outside,	5
Number of gasoline locomotives used inside,	2
Number of fans in use,	24
Number of furnaces in use,	.....
Number of gaseous mines in operation,	23
Number of non-gaseous mines in operation,	1
Number of new mines opened,	.....
Number of old mines abandoned,	.....

Digitized by Google

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Philadelphia and Reading Coal and Iron Company, ...	1,181,401
Summit Branch Mining Company, ...	946,670
Lehigh Valley Coal Company, ...	288,844
Total, ...	2,416,915

Production by Counties

Schuylkill, ...	1,470,245
Dauphin, ...	946,670
Total, ...	2,416,915

Digitized by Google

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Mine foremen,	....	....	....	....	....	....	....	1	....	....	....	....	1
Inside superintendents,	....	....	....	....	....	....	....	1	....	....	....	....	1
Fire bosses and assistants,	....	....	....	....	....	....	....	5	....	....	....	....	5
Miners,	1	3	1	....	....	3	....	2	....	....	....	....	10
Miners' laborers,	....	....	....	1	....	....	....	6	1	....	....	....	8
Drivers and runners,	....	....	....	....	....	....	....	1	....	....	....	....	1
Doorboys and helpers,	....	....	....	....	....	....	....	....	1	....	....	....	1
Timbermen,	....	....	....	....	....	....	....	....	....	....	1	....	1
Blacksmiths,	....	....	....	....	....	....	....	2	....	....	....	....	2
Repairmen,	....	....	....	....	....	....	....	1	....	....	....	....	1
Starters,	....	....	....	....	1	....	....	....	....	....	....	....	1
Bottom men,	....	....	....	....	....	....	....	1	....	....	....	....	1
Totals,	1	3	1	1	1	3	....	20	2	....	1	....	33
Outside													
Jig runners,	....	....	....	....	....	....	....	....	....	1	....	....	1
Laborers,	....	1	....	....	....	....	....	....	....	1	....	....	2
Totals,	....	1	....	....	....	....	....	....	....	2	....	....	3
Grand totals inside and outside,	1	4	1	1	1	3	....	20	2	2	1	....	36

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	....	3	1	1	3	2	2	1	1	1	2	1	15
Miners' laborers,	1	1	1	1	....	3	....	....	....	....	1	1	9
Drivers and runners,	1	1	....	....	....	....	....	....	....	1	....	....	3
Doorboys and helpers,	....	....	....	....	....	....	....	1	....	....	....	....	1
Switchmen,	....	....	....	....	....	....	....	....	....	....	1	....	1
Loaders,	....	....	....	....	1	....	1	....	....	....	....	....	2
Timbermen,	....	....	....	....	....	....	....	1	....	....	....	....	1
Totals,	2	5	2	2	4	5	3	3	1	2	4	2	35
Outside													
Laborers,	1	....	....	....	....	....	....	....	....	....	....	....	1
Conductors,	....	....	....	1	....	....	....	....	....	....	....	....	1
Breaker bosses,	....	....	....	....	1	....	....	....	....	....	....	....	1
Totals,	1	....	....	1	1	....	....	....	....	....	....	....	3
Grand totals inside and outside,	3	5	2	3	5	5	3	3	1	2	4	2	38

Digitized by Google

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	1	3	1	1	1	1	....	11	....	1	1	...	21
Irish,	....	1	....	....	....	....	....	....	....	....	....	....	1
Polish,	....	....	....	....	....	2	....	....	1	....	....	....	3
Hungarian,	....	....	....	....	....	....	....	....	....	1	....	....	1
Italian,	....	....	....	....	....	....	....	8	....	....	....	....	8
Slavonian,	....	....	....	....	....	....	....	....	1	....	....	....	1
Austrian,	....	....	....	....	....	....	....	1	....	....	....	....	1
Totals,	1	4	1	1	1	3	....	20	2	2	1	....	36

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	2	2	2	2	2	4	1	3	1	2	4	2	27
English,	....	1	....	....	1	....	....	....	....	....	....	....	2
Scotch,	....	1	....	....	....	....	....	....	....	....	....	....	1
Irish,	....	....	....	....	....	....	1	....	....	....	....	....	1
Polish,	....	....	....	1	....	1	....	....	....	....	....	....	2
Hungarian,	....	....	....	....	1	....	....	....	....	....	....	....	1
Austrian,	....	....	....	....	1	....	....	....	....	....	....	....	1
Russian,	1	1	....	....	....	....	1	....	....	....	....	....	3
Totals,	3	5	2	3	5	5	3	3	1	2	4	2	38

Digitized by Google

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Philadelphia and Reading Coal and Iron Co.						
Lincoln,				Reese Tasker, Mining Supt.		
Good Spring,				E. E. Kaercher, Div. Supt.	Pottsville,	
Brookside,	Schuylkill,	W. J. Richards, Vice President and General Manager.	Pottsville,	R. J. Schneider, Inside Supt.	Tremont,	Philadelphia and Reading
Valley View,				J. H. Lee, Outside Supt.	Tremont,	
Rausch Creek Washery,						
Middle Creek Washery,						
Summit Branch Mining Co.						
Williamstown,				William Auman, Outside Supt.		
Short Mountain,	Dauphin,	R. A. Quin, General Manager.	Wilkes-Barre,	M. J. Readdy, Inside Supt.	Lykens,	Pennsylvania
Short Mountain Washery,						
Williamstown Washery,						
Lehigh Valley Coal Co.						
Blackwood,	Schuylkill,	Thomas Thomas,	Wilkes-Barre,	Thomas R. Jones,	Mahanoy City,	Lehigh Valley

Digitized by Google

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives: Number of pounds of powder used	Explosives: Number of pounds of dynamite used	Explosives: Number of pounds of permissible explosives used	Number of horses and mules
Philadelphia and Reading Coal and Iron Co.													
Lincoln	Schuylkill	438,201	83,459	6,329	527,989	269	1,241	2	10	135,975	63,732	28,100	126
Good Spring	Schuylkill	275,374	57,428	7,544	340,346	268	748	3	2	375	137,754	36,582	82
Brookside	Schuylkill	274,449	38,387	46	312,882	250	979	22	4	26,375	67,751	14,063	103
Valley View	Schuylkill	.....	.....	179	179	.....	3	.....	.....	.....	1,110	425	.....
		988,024	179,274	14,098	1,181,396	.....	2,971	27	16	162,725	270,347	79,170	311
Washeries													
Rausch Creek	Schuylkill	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....
Middle Creek	Schuylkill	.....	.....	5	5	.....	5	.....	.....	.....	.....	.....	.....
		.....	.....	5	5	.....	8	.....	.....	.....	.....	.....	.....
Totals	.....	988,024	179,274	14,103	1,181,401	.....	2,979	27	16	162,725	270,347	79,170	311
Summit Branch Mining Co.													
Williamstown	Dauphin	308,226	65,228	6,180	379,634	274	1,073	4	12	25,050	103,689	97,678	104
Short Mountain	Dauphin	294,901	62,889	14,585	372,375	276	1,311	1	6	108,350	99,564	528	120
		603,127	128,117	20,765	752,009	.....	2,384	5	18	133,400	203,253	98,206	224

Digitized by Google

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside										Outside									Grand total inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	
Philadelphia and Reading Coal and Iron Co.,	Schuylkill,	5	49	...	583	269	136	42	4	492	775	2,855	.....	10	28	112	52	9	11	299	624	2,979
Summit Branch Mining Co.,	Dauphin,	3	8	24	578	160	160	15	36	4	699	1,687	1	3	64	150	84	....	13	446	765	2,452
Lehigh Valley Coal Co.,	Schuylkill,	3	8	....	249	88	7	6	2	50	64	477	1	1	10	18	9	2	4	94	139	616
Totals,	.....	11	65	24	1,410	517	303	63	42	546	1,538	4,519	2	14	102	280	145	11	31	941	1,526	6,045

Digitized by Google

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Philadelphia and Reading Coal and Iron Co.,	Schuylkill,	22	22	21	24	25	24	19	16	18	26	23	22	262
Summit Branch Mining Co.,	Dauphin,	22	23	22	25	23	24	18	22	24	26	22	24	275
Lehigh Valley Coal Co.,	Schuylkill,	26	23	15	25	24	25	20	19	21	25	23	21	266

Digitized by Google

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 8	Harry Strauga, ...	Russian, ...	Laborer, ...	26	S.	Short Mountain, ...	Dauphin, ...	Head and back cut and bruised between mine car and post at breaker. Outside.
15	Oscar Richter, ...	American,...	Driver, ...	18	S.	Good Spring, ...	Schuylkill, ...	Foot crushed by mine car running over it near bottom of slope.
30	D. Swanger, ...	American,...	Laborer, ...	30	S.	Lincoln, ...	Schuylkill, ...	Right leg fractured by fall of slate while robbing pillars.
Feb. 5	Thomas Fiddler, ...	American,...	Driver, ...	21	S.	Lincoln, ...	Schuylkill, ...	Arm broken and hip dislocated by falling under mine car near bottom of slope.
8	John Pritchard, ...	American,...	Miner, ...	38	M.	Good Spring, ...	Schuylkill, ...	Shoulder dislocated, body badly bruised and hurt internally by falling down manway of breast.
17	Alexander Schepesock,	Russian, ...	Laborer, ...	21	S.	Short Mountain, ...	Dauphin, ...	Fore part of foot crushed by fall of slate from high side on gangway.
19	John McKelvy, ...	Scotch, ...	Miner, ...	41	M.	Williamstown, ...	Dauphin, ...	Hands and face burned and body badly bruised by explosion of gas in run they were starting.
21	Richard Whitcomb, ...	English, ...	Miner, ...	42	M.	Williamstown, ...	Dauphin, ...	Right hand blown off by premature explosion of shot of dynamite while starting a run.
March 12	Clarence Portzline, ...	American,...	Laborer, ...	19	S.	Short Mountain, ...	Dauphin, ...	Left ankle fractured and body bruised by fall of slate while robbing pillars.
13	Charles Burnes, ...	American,...	Miner, ...	31	M.	Williamstown, ...	Dauphin, ...	Head, shoulder and body badly cut and bruised by falling down manway of breast.
April 10	Stiney Walulsk, ...	Polish, ...	Miner, ...	29	M.	Blackwood, ...	Schuylkill, ...	Leg cut above the knee when ax slipped while splitting a plank on gangway.
12	William I. Dressel, ..	American,...	Conductor, ...	19	S.	Short Mountain, ...	Dauphin, ...	Right arm crushed above elbow by being caught between mine car and locomotive at breaker. Outside.
25	Womie Rhine, ...	American, ..	Laborer, ...	23	S.	Lincoln, ...	Schuylkill, ...	Collar bone fractured by being caught between mine car and prop at bottom of slope.
May 6	Albert B. Zautch, ...	Hungarian.	Miner, ...	27	M.	Williamstown, ...	Dauphin, ...	Hands and face burned by explosion of gas at face of breast heading he was driving.

Digitized by Google

May	9	Joshua Fessler, ...	American,...	Loader, ...	30	M.	Lincoln, ...	Schuylkill, ...	Right leg fractured by falling down chute.
	21	William Fetterman, ..	American,...	Breaker boss, ...	21	M.	Blackwood, ...	Schuylkill, ...	Left foot broken by rope at breaker. Outside.
	24	Joseph Dixon, ...	English, ...	Miner, ...	43	M.	Blackwood, ...	Schuylkill, ...	Seriously injured by fall of rock at face of breast.
		Paul Sminsky, ...	Austrian, ...	Miner, ...	34	M.	Blackwood, ...	Schuylkill, ...	Back injured and rib broken by falling down chute.
June	4	Harry S. Bowers, ...	American,...	Laborer, ...	19	S.	Lincoln, ...	Schuylkill, ...	Left leg fractured above knee by fall of slate at face of pillar.
	11	Robert Reiner, ...	American,...	Miner, ...	35	M.	Brookside, ...	Schuylkill, ...	Seriously injured by explosion of dynamite in traveling way.
	18	F. Zygonslispil, ...	Polish, ...	Miner, ...	25	M.	Williamstown, ...	Dauphin, ...	Rupture of uretha by falling on cross bar of mine car.
	28	Arthur Moffat, ...	American,...	Laborer, ...	21	S.	Williamstown, ...	Dauphin, ...	Left leg broken by fall of rock at face of gangway.
		Robert Baird, ...	American,...	Laborer, ...	24	S.	Williamstown, ...	Dauphin, ...	Arm broken and body badly bruised by fall of rock at face of gangway.
July	16	Peter Wargo, ...	Russian, ...	Loader, ...	19	S.	Williamstown, ...	Dauphin, ...	Right leg bruised and two small bones broken between mine car and rib on gangway.
	21	Roger Mahon, ...	Irish, ...	Miner, ...	50	M.	Brookside, ...	Schuylkill, ...	Internally injured by fall of slate at face of pillar.
	23	William Potts, ...	American,...	Miner, ...	44	M.	Lincoln, ...	Schuylkill, ...	Left leg fractured by fall of slate at face of pillar.
Aug.	2	George Drum, ...	American,...	Timberman, ...	43	M.	Williamstown, ...	Dauphin, ...	Pelvic bone broken and badly squeezed by fall of coal on gangway.
	11	Fred Klinger, ...	American,...	Driver, ...	20	S.	Lincoln, ...	Schuylkill, ...	Internally injured and body badly bruised by hoisting rope throwing him against top when he stepped over it.
	27	Harry Koch, ...	American,...	Miner, ...	44	M.	Short Mountain, ...	Dauphin, ...	Internally injured and badly bruised by fall of coal in heading of breast.
Sept.	18	R. F. Nunemacher, ...	American,...	Miner, ...	48	M.	Brookside, ...	Schuylkill, ...	Right leg fractured by piece of rock that rolled down chute and struck him while loading car.
Oct.	3	Gurney Hand, ...	American,...	Driver, ...	23	S.	Williamstown, ...	Dauphin, ...	Right arm broken at wrist by mine cars on gangway.
	7	Lewis Fromme, ...	American,...	Miner, ...	33	M.	Williamstown, ...	Dauphin, ...	Injured across back by fall of coal at face of breast.
Nov.	3	Charles Unbenhaur, ..	American,...	Miner, ...	27	M.	Lincoln, ...	Schuylkill, ...	Leg fractured by fall of coal while robbing pillars.
	15	Daniel Dreibelbies, ...	American,...	Miner, ...	37	S.	Short Mountain, ...	Dauphin, ...	Left clavicle fractured by fall of coal at face of breast.
	18	Harry Sattizhan, ...	American,...	Switch man, ...	24	M.	Lincoln, ...	Schuylkill, ...	Skull fractured between mine cars on turnout.
	21	Ells Underkoffer, ...	American,...	Laborer, ...	27	S.	Brookside, ...	Schuylkill, ...	Head, arm and side cut and bruised by premature shot while starting battery.
Dec.	5	George S. Challangher,	American,...	Miner, ...	28	S.	Williamstown, ...	Dauphin, ...	Slightly burned about hands and face by explosion of gas at face of breast.
		James Gibson, ...	American,...	Laborer, ...	23	S.	Lincoln, ...	Schuylkill, ...	Pelvis injured by fall of coal at face of working place.

Digitized by Google

EXPLOSION AT EAST BROOKSIDE COLLIERY

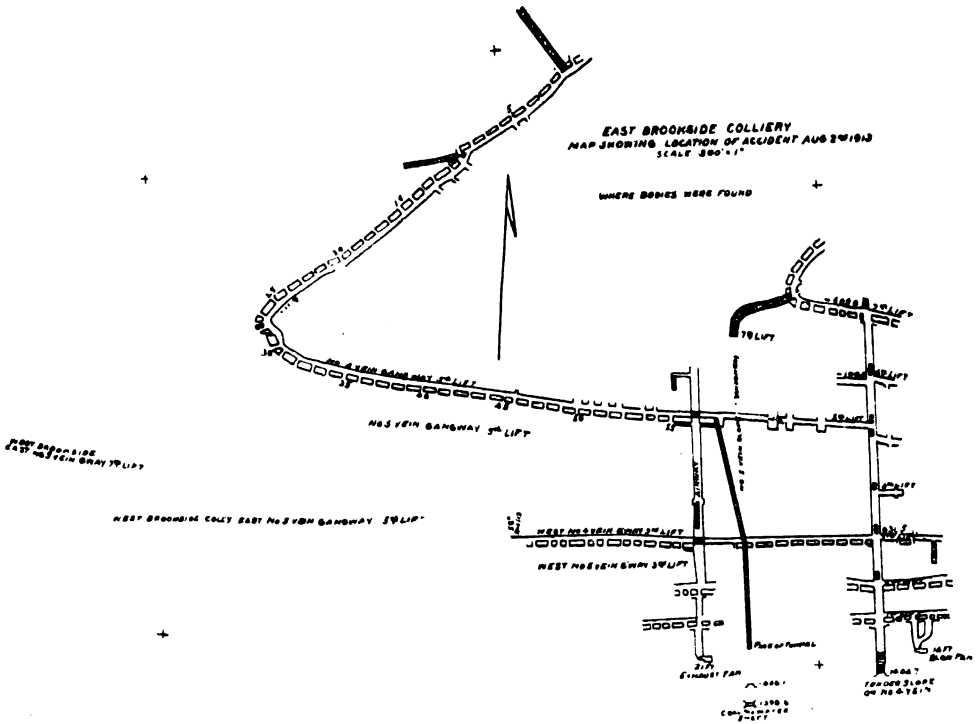
On Saturday, August 2, a disastrous explosion occurred at East Brookside Colliery, by which twenty lives were lost.

When I reached the scene of the accident I was informed that two explosions had taken place. The inside superintendent, mine foreman and a number of assistant foremen and fire bosses were reported to be inside. On going down to the fifth lift of the tender slope and walking west, we found several dead bodies at the mouth of the tunnel that was being driven south to the shaft. Outside Superintendent Lee was in charge of the work of removing the bodies to the surface. With Charles Fegley, a miner, I started to look for the superintendent and foreman. After traveling west in the No. 4 seam to No. 2 tunnel, we turned in to the No. 5 seam and walked east to breast No. 60, where we found Mr. Lorenz, his clothes torn to shreds, but still conscious. We carried him back to a turnout at breast No. 45 and sent for help and he was carried to the surface. We then went inside to find the foreman. The air being foul at No. 63 chute, two men equipped with Draeger helmets went in and found the foreman lying dead at chute No. 65. He was placed on a stretcher and removed to the surface. We then returned to the tunnel near the slope, and as the air compressor was going at full speed we were enabled to go directly into the tunnel, where we found the seven tunnel men lying dead along the road. They were removed to the surface, and the check list showed that all men were accounted for but Fire Bosses Farley and Fessler. Inspectors Brennan and Curran joined me at 8 P. M. and we started to search for the missing men. It was found that No. 5 seam gangway west of the tunnel was closed to No. 72½ chute, and we decided that the men must be under the fall, although the entire mine was searched in the hope that they might be found. Work to reopen the gangway from the tunnel was begun immediately, and also to clean up to the cave on the west side to the airway. After securing the airway, it was decided to push all work from the tunnel, believing that the 175 pounds of dynamite that the tunnel men had taken in the day previous had exploded and that Farley and Fessler would be found near that spot. Inspectors Fenton and Lamb came to the mine Sunday and fully approved of the work being done, and on Monday Charles Enzian, mining engineer of the U. S. Bureau of Mines, arrived, and after a careful investigation decided that the dynamite had exploded; but on Sunday morning, August 10, we uncovered the dynamite box and found it intact. Inspector Brennan returned that evening and the next day we decided to have the gas removed that had gathered on the west side, and examine the headings and places there. We had personal charge of this work and by evening everything was clear and examined, but nothing could be found.

On Friday morning, August 15, about 3 A. M., the body of Farley was found, and at 10.30 that night the body of Fessler.

Cause of the disaster: At No. 74 chute the timber lay straight across the gangway at right angles to it, showing that the force started from that point. West of that point the timber slanted west, and similarly to the east. Farley and Fessler had evidently been sitting on the boxes west of the tunnel, waiting for Lorenz and Farrel, whom they

Digitized by Google


EAST BROOKSIDE COLLIERY
MAP SHOWING LOCATION OF ACCIDENT AUG 29TH 1913
SCALE 300 FT = 1"
WHERE BODIES WERE FOUND
79 LIFT
NO 5 VEIN GANGWAY 3RD LIFT
WEST BROOKSIDE EAST NO 5 VEIN GRAY 79 LIFT
WEST BROOKSIDE COLLY EAST NO 5 VEIN GANGWAY 79 LIFT
WEST NO 5 VEIN GANGWAY 3RD LIFT
WEST NO 5 VEIN GANGWAY 39 LIFT
PLACE OF ACCIDENT
FAN
EXHAUST FAN
TRIPLE SLOPE ON NO 5 VEIN

Digitized by Google

and has been completed a distance of 113 feet. A tunnel is being driven south at breast No. 83 on same gangway, and has been completed a distance of 429 feet.

Installed electric lights in the dwelling houses and on the streets. Built a powder magazine; remodeled shop and installed therein Boye lathe and a Snyder drill press.

Laid a six-inch wooden water line, 2,900 feet long, from the upper dam to the houses for water supply.

Brookside Colliery.—East Section: Tunnel driven 935 feet on fifth level from the No. 4 vein to shaft.

Air tunnel driven 111 feet on fifth level, main heading, between No. 4 vein and No. 5 vein.

Traveling roadway driven on No. 4 vein from the top of No. 3 plane to No. 4 plane level, a distance of 800 feet.

West Section: The west breaker is being rebuilt and is now almost completed, containing all the latest appliances for the preparation of the output of the colliery. When completed, the old east breaker will be abandoned.

The loading tracks under the breaker have been laid in cement and paved with brick.

The main track at breaker has been moved south 50 feet from new breaker and an intermediate track laid for unloading coal.

A new system of tracks is being laid to handle the coal at breaker tip with a 12-inch pusher and barney.

A new frame blacksmith and carpenter shop, with a concrete base, has been erected and equipped with lathes, drill press, pipe cutter, steam hammer and saws.

Valley View Colliery.—A 40-inch gauge railroad, 50-pound rails, two and nine-tenths miles long, has been completed from Good Spring Colliery to the top of new double track plane, which is being graded and track laid to take coal from Valley View tunnel to Good Spring colliery.

SUMMIT BRANCH MINING COMPANY

Williamstown Colliery.—Built 77 mine cars and buggies, a water tank at breaker, a steam dump at breaker, hospital at No. 1 shaft counter, and enlarged fireproof stable at No. 2 shaft counter.

Installed air compressor at No. 2 shaft, a fire alarm system, additional battery of boilers at Big Lick, new fan at Bear Valley, electric lines at No. 1 shaft.

A new electric power plant was erected at Bear Valley.

A 6-inch water hole was sunk from counter to bottom of No. 2 shaft, also an air shaft at Bear Valley slope.

The following air tunnels were driven: East Lykens to East White's vein, No. 2 shaft and to Little vein. No. 2 shaft; White's vein to Lykens vein, No. 2 shaft; West Lykens vein to West Little vein; East Little to East Lykens vein, No. 2 shaft; top turnout to No. 2 shaft bottom, West Little to West Lykens vein, No. 2 shaft; Little vein to Red Shale, No. 2 shaft bottom; Big Lick slope to White Ash measures; top of plane to No. 9 vein, No. 2 shaft counter; East No. 9½ vein to No. 11 vein bottom of Bear Valley slope and West No. 11 vein, No. 1 shaft, South tunnel; to car hoist No. 2 shaft counter, North tunnel.

Digitized by Google

Airways and tunnels: West Lykens vein, No. 2 shaft, Summit slope, to No. 1 shaft; South tunnel to No. 2 shaft, No. 9 vein; West No. 9 to No. 9½ vein, No. 2 shaft, North tunnel; South tunnel to No. 1 shaft; to South tunnel No. 9½ vein, No. 2 shaft; No. 1 shaft, South tunnel, No. 9½ vein; White Ash airway, Big Lick slope. A rock plane at No. 2 shaft, and Trial slope at Zero vein.

Short Mountain Colliery.—No. 2 breaker completed. Built 162 new mine cars and buggies, also fireproof stables at No. 3 counter, White's vein, No. 3 West, old No. 1 counter, Lykens Valley slope and White ash.

A four-compartment shaft is now being sunk, which, when completed, will be 1,650 feet deep.

Steel timber was used in No. 4 level, No. 4 slope. Additional battery of boilers was installed.

Airways were driven at No. 2 gate, No. 7 counter, White's vein; airway and waterway for Basin slope, No. 4 extension; air tunnel at No. 4 slope; air slope and fan at east side and to rock gangway; airway at No. 4 level, Big vein, West No. 4 slope and White's vein, West old No. 1 level.

A motor route was extended to White's vein, West old No. 1 level.

A turnout was made at top of White's vein basin slope, No. 4 extension. A pump room was put in White Ash.

A new plane was sunk at No. 2 counter, White's vein, No. 3 West and at White's vein east, old No. 1 level.

Slopes were sunk at White's vein basin, No. 4 extension, No. 4 slope, and trial slope in Big vein, East Bear Gap slope.

Tunnels were driven as follows: Bear Gap slope No. 6½ counter, Little vein No. 3 West; No. 2 counter, White's vein, No. 3 West; No. 2 counter, White's vein, No. 1 level; at Pat Martin White ash; White's vein to Big vein, No. 4 slope; East White Ash gangway; East Bear Gap gangway; No. 7 counter, No. 4 slope. Also four tunnels to meet the new shaft: Old No. 1 level, No. 3 level, No. 4 level, No. 4 slope, No. 7 counter, No. 4 slope.

LEHIGH VALLEY COAL COMPANY

Blackwood Colliery.—Blackwood slope was sunk 79 feet and a slope to second level, Tracy vein, Blackwood tunnel, 464 feet.

Installed fan and engine to ventilate the shaft.

Installed an 8-ton electric locomotive in Blackwood tunnel, and a new 11-ton gasoline locomotive in Dundass tunnel.

Built frame boiler house and engine house.

Installed new boiler and 50-ton gasoline hoist at proving slope, and placed new air compressor in service.

Built two new fireproof houses for use of gasoline locomotives at Dundass tunnel.

A proving slope was sunk 320 feet on Black mine vein, south dip, east of Blackwood colliery.

A tunnel through Sharp mountain for the purpose of procuring a fresh water supply was completed, and 390 feet driven in tunnel from Tracy to Skidmore veins on East side of Blackwood tunnel.

Digitized by Google

SUMMARY OF STATISTICS

Number of collieries,	16
Number of mines,	34
Number of mines in operation,	34
Number of tons of coal shipped to market,	2,778,122
Number of tons used at mines for steam and heat,	312,802
Number of tons sold to local trade and used by employes,	54,938
Number of tons produced,	3,145,862
Number of tons produced by compressed air machines,	.....
Number of tons produced by electrical machines,	.....
Number of persons employed inside of mines,	5,341
Number of persons employed outside,	2,059
Number of fatal accidents inside of mines,	16
Number of fatal accidents outside,	6
Number of non-fatal accidents inside of mines,	61
Number of non-fatal accidents outside,	7
Number of tons of coal produced per fatal accident inside,	196,616
Number of tons produced per fatal accident outside,	524,310
Number of tons produced per fatal accident inside and outside,	142,994
Number of persons employed per fatal accident inside,	334
Number of persons employed per fatal accident outside,	343
Number of persons employed per fatal accident inside and outside,	336
Number of persons employed per non-fatal accident inside,	88
Number of persons employed per non-fatal accident outside,	294
Number of persons employed per non-fatal accident inside and outside,	109
Number of wives made widows,	11
Number of children made orphans,	31
Number of steam locomotives used inside of mines,	2
Number of steam locomotives used outside,	23
Number of compressed air locomotives used inside,	.....
Number of compressed air locomotives used outside,	.....
Number of electric motors used inside,	41
Number of electric motors used outside,	.....
Number of fans in use,	29
Number of furnaces in use,	.....
Number of gaseous mines in operation,	4
Number of non-gaseous mines in operation,	30
Number of new mines opened,	.....
Number of old mines abandoned,	.....

Digitized by Google

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Hillside Coal and Iron Company,	523,411
Hudson Coal Company,	410,511
Scranton Coal Company,	365,650
Lackawanna Coal Company, Limited,	343,609
Connell Anthracite Mining Company,	331,809
Mt. Jessup Coal Company, Limited,	307,184
Moosic Mountain Coal Company,	251,206
Northwest Coal Company,	187,787
Northern Anthracite Coal Company,	169,798
Dolph Coal Company, Limited,	113,214
O'Boyle-Foy Anthracite Coal Company,	84,453
Carbondale Coal Mining Company,	31,672
Noble-Williams Coal Company,	10,227
Clinton Falls Coal Company,	6,868
Wachna-Taylor Anthracite Coal Company,	6,853
Sacandaga Coal Company,	1,610
Total,	3,145,862

Production by Counties

Lackawanna,	1,974,754
Sullivan,	592,913
Susquehanna,	531,039
Wayne,	47,156
Total,	3,145,862

Digitized by Google

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	....	....	1	....	....	....	1	....	1	1	....	....	4
Miners' laborers,	1	....	1	1	....	....	....	1	....	1	....	2	7
Drivers and runners,	....	....	1	....	....	....	....	....	....	1	....	....	2
Motormen,	....	....	....	....	....	....	....	....	....	....	....	1	1
Cable boys,	....	....	1	....	....	....	....	....	....	....	....	....	1
Footmen,	....	....	....	....	....	1	....	....	....	....	....	....	1
Totals,	1	....	4	1	....	1	1	1	1	3	....	3	16
Outside													
Foremen,	....	....	....	1	....	....	....	....	....	....	....	....	1
Slatepickers (boys),	....	....	....	....	....	....	....	....	....	....	....	1	1
Laborers,	....	....	....	....	....	....	....	1	1	....	....	....	2
Miners,	....	....	....	....	....	....	....	1	....	....	....	....	1
Loaders,	....	....	....	....	....	....	1	....	....	....	....	....	1
Totals,	....	....	....	1	....	....	1	2	1	....	....	1	6
Grand totals inside and outside,	1	....	4	2	....	1	2	3	2	3	....	4	22

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	2	4	1	2	6	2	3	3	1	4	1	1	30
Miners' laborers,	1	2	1	3	1	2	....	....	2	2	2	....	16
Drivers and runners,	....	1	2	2	....	2	1	1	....	....	....	1	10
Doorboys and helpers,	....	....	....	....	....	....	....	....	1	....	....	....	1
Cable boys,	....	....	....	....	....	....	....	....	1	....	....	....	1
Engineers,	....	....	....	....	....	1	....	....	....	....	....	....	1
Brakemen,	....	....	....	....	....	1	....	....	....	....	....	....	1
Bratticemen,	....	....	....	....	1	....	....	....	....	....	....	....	1
Totals,	3	7	4	7	8	8	4	4	5	6	3	2	61
Outside													
Drivers,	....	....	....	....	....	....	....	....	....	....	1	....	1
Miners,	....	....	....	....	....	....	....	....	....	....	1	....	1
Switchmen,	....	....	....	....	....	....	....	1	....	....	....	....	1
Headmen,	....	....	....	....	....	....	1	....	....	....	....	....	1
Brakemen,	....	....	1	....	....	....	....	....	....	....	....	....	1
Laborers,	....	1	....	....	....	....	....	....	....	1	....	....	2
Totals,	....	1	1	....	....	....	1	1	....	1	2	....	7
Grand totals inside and outside,	3	8	5	7	8	8	5	5	5	7	5	2	68

Digitized by Google

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	....	....	1	1	....	1	....	....	....	....	....	....	3
English,	....	....	....	....	....	....	....	....	....	1	....	....	1
Irish,	....	....	1	....	....	....	....	....	....	....	....	....	1
Polish,	1	....	2	1	....	....	....	1	1	....	....	1	7
Italian,	....	....	....	....	....	....	....	....	....	1	....	1	2
Slavonian,	....	....	....	....	....	....	....	2	1	....	....	....	3
Austrian,	....	....	....	....	....	....	1	....	....	1	....	....	2
Russian,	....	....	....	....	....	....	1	....	....	....	....	2	3
Totals,	1	....	4	2	....	1	2	3	2	3	....	4	22

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	....	1	....	1	2	3	....	2	....	1	....	....	10
English,	....	....	1	....	....	....	....	....	1	....	....	....	2
Welsh,	....	1	....	....	....	....	....	....	....	....	....	1	2
Irish,	....	....	1	....	2	....	1	....	....	....	....	....	4
Polish,	1	3	1	1	....	2	1	1	1	1	....	....	12
Italian,	....	2	1	2	....	....	1	....	1	2	1	....	10
Slavonian,	....	....	....	....	....	2	1	....	....	2	1	....	6
Lithuanian,	....	....	1	....	....	1	....	1	....	....	....	....	3
Austrian,	2	1	....	2	2	....	1	1	1	1	2	1	14
Russian,	....	....	....	1	2	....	....	....	1	....	1	....	5
Totals,	3	8	5	7	8	8	5	5	5	7	5	2	68

Digitized by Google

TABLE I.—Continued

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Wachna-Taylor Anthracite Coal Co.															
Wachna-Taylor Colliery:															
Wachna-Taylor, ...	Slope,.....	Non-gas..	*	.....	.....	.....	.....	1.2	Guibal, ...	Steam,.....	1	18,000	18,000	20,500	25
Sacandaga Coal Co.															
Mohawk Colliery:															
Mohawk, ...	Drift, ...	Non-gas..	Natural, ..	.....	.....	.....	.....	.....	.....	.....	1	7,500	6,500	7,500	13

*Ventilated by O'Boyle-Foy Anthracite Coal Company, on Southwest Split.

Digitized by Google

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Hillside Coal and Iron Co. Forest City,	Susquehanna,	J. P. Jennings,	Scranton,	H. E. Yewens,	Forest City,	Erie
Hudson Coal Co. Clinton,	Lackawanna, Wayne, Susquehanna,	C. C. Rose,	Scranton,	E. R. Pettebone,	Dorranceton,	D. and H.
Clinton Washery,						
Scranton Coal Co. Ontario,	Lackawanna,	W. L. Allen,	Peckville,	J. K. Berkheiser, Inside Supt. J. J. Aitken, Outside Supt.	Olyphant, Priceburg,	N. Y. O. and W.
Ontario Washery,						
Lackawanna Coal Co., Ltd. Lackawanna,	Lackawanna,	Frank H. Hemelright,	Scranton,	Joseph Reese,	Olyphant,	D. L. and W., and Erie
Connell Anthracite Mining Co. Connell,	Sullivan,	W. L. Connell,	Scranton,			Lehigh Valley
Mt. Jessup Coal Co., Ltd. Mt. Jessup,	Lackawanna,			John T. Cartwright,	Peckville,	D. L. and W., N. Y. O. and W., Erie, and D. and H.
Moosic Mountain Coal Co. Marshwood,	Lackawanna,	Charles P. Ford,	Marshwood,	M. Hoodmacher,	Marshwood,	D. L. and W.
Northwest Coal Co. Northwest,	Lackawanna,	Frank H. Hemelright,	Scranton,	Tudor J. Aston,	Carbondale,	N. Y. O. and W., and Erie
Northern Anthracite Coal Co. Murray,	Sullivan,	M. J. Murray, Sr.,	Dunmore,	P. J. Murray,	Murray,	Lehigh Valley
Dolph Coal Co., Ltd. Dolph,	Lackawanna,	W. G. Robertson,	Scranton,	W. G. Robertson,	Scranton,	Erie
O'Boyle-Foy Anthracite Coal Co. O'Boyle-Foy,	Sullivan,	M. W. O'Boyle,	Pittston,	M. J. Clemons,	Murray,	Lehigh Valley
Carbondale Coal Mining Co. Bolands,	Lackawanna,	John J. Boland,	Carbondale,	John Flannelly,	Carbondale,	D. and H.

Digitized by Google

TABLE 2.—Continued

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Moosic Mountain Coal Co. Marshwood,*	Lackawanna, ...	221,223	28,000	1,963	251,206	257	437	4	5	152,450	98,450	.....	58
Northwest Coal Co. Northwest,	Lackawanna, ...	177,972	8,942	873	187,787	268	357	3	6	150,650	10,943	.....	50
Northern Anthracite Coal Co. Murray,	Sullivan, ...	161,552	5,000	3,246	169,798	181	294	2	.....	126,000	2,000	.....	22
Dolph Coal Co., Ltd. Dolph,	Lackawanna, ...	87,337	25,000	877	113,214	164	444	2	4	159,250	33,025	.....	34
O'Boyle-Foy Anthracite Coal Co. O'Boyle-Foy,	Sullivan, ...	77,174	5,500	1,779	84,453	177	226	.....	.....	120,000	19,625	.....	22
Carbondale Coal Mining Co. Bolands,	Lackawanna, ...	14,502	3,500	13,670	31,672	254	92	.....	2	60,000	3,600	.....	8
Noble-Williams Coal Co. Primrose,†	Lackawanna, ...	8,600	1,460	167	10,227	189	53	.....	.....	750	.....	.....	3
Clinton Falls Coal Co. Clinton Falls,	Wayne, ...	5,709	673	486	6,868	126	40	.....	.....	2,400	.....	2,400	4

*Coal is prepared in Mt. Jessup breaker.
†Formerly Outlook Colliery operated by the Outlook Coal Company. Noble-Williams Coal Company took charge about April 1.

Digitized by Google

Wachna-Taylor Anthracite Coal Co.														
Wachna-Taylor.	Sullivan,	5,727	1,000	116	6,853	159	34	.....	.....	10,000	400	.....	4	
Sacandaga Coal Co.														
Mohawk,‡	Lackawanna,	1,289	100	111	1,610	41	32	1	.....	3,625	275	.....	3	
Grand totals,		2,778,122	812,802	54,938	3,145,862	.....	7,400	22	64	2,501,150	619,242	263,364	616	

‡Formerly Bartons Colliery operated by the Lincoln Hill Coal Company. Sacandaga Coal Company took charge about May 1.

Digitized by Google

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Hillside Coal and Iron Co.,	Susquehanna,	23	23	23	24	26	25	13	26	24	25	24	25	280
Hudson Coal Co.,	{Lackawanna, Wayne, }	25	23	22	25	25	24	25	26	22	24	23	25	289
Scranton Coal Co.,	Lackawanna,	21	20	20	20	21	20	20	20	19	18	18	19	236
Lackawanna Coal Co., Ltd.,	Lackawanna,	26	24	25	25	24	24	26	15	13	26	23	26	276
Connell Anthracite Mining Co.,	Sullivan,	24	24	24	25	23	24	22	23	23	23	23	21	280
Mt. Jessup Coal Co., Ltd.,	Lackawanna,	25	24	23	24	24	23	24	24	24	25	23	23	285
Northwest Coal Co.,	Lackawanna,	22	22	24	24	23	21	23	21	22	23	21	22	268
Northern Anthracite Coal Co.,	Sullivan,	18	17	11	.....	10	19	13	17	19	20	17	20	181
Dolph Coal Co., Ltd.,	Lackawanna,	16	16	14	15	15	12	13	10	12	13	13	15	164
O'Boyle-Foy Anthracite Coal Co.,	Sullivan,	19	16	14	19	18	19	6	1	19	14	19	13	177
Carbondale Coal Mining Co.,	Lackawanna,	23	20	21	20	23	13	20	20	21	21	24	24	254
Noble-Williams Coal Co.,	Lackawanna,	.....	8	11	15	14	17	16	18	24	21	24	21	189
Clinton Falls Coal Co.,	Wayne,	26	22	18	.....	.....	.....	.....	.....	12	23	19	6	126
Wachna-Taylor Anthracite Coal Co.,	Sullivan,	24	23	6	.....	.....	.....	.....	19	20	25	22	20	159
Sacandaga Coal Co.,	Lackawanna,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	21	20	41

Digitized by Google

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 18	Frank Orbrousky, ...	Polish,.....	Laborer, ...	45	M.	1	5	Lackawanna, ...	Lackawanna, ...	Fatally injured by fall of roof at face of chamber.
March 1	Anthony Grimes, ...	Irish, ...	Laborer, ...	50	M.	1	....	Marshwood, ...	Lackawanna, ...	Fatally injured by fall of roof at pillar work.
4	Stanley Frances, ...	Polish,.....	Cable boy, ..	18	S.	....	....	Lackawanna, ...	Lackawanna, ...	Fatally injured by cars on gangway.
14	Oliver Richards, ...	American,..	Driver, ...	18	S.	....	....	Clinton, ...	Lackawanna, ...	Killed by being struck by wooden rail on plane.
29	Bartol Speholski, ...	Polish,.....	Miner, ...	50	M.	1	3	Forest City, ...	Susquehanna, ..	Fatally injured by fall of roof at face of pillar.
April 18	Louis Malinoski, ...	Polish,.....	Laborer, ...	19	S.	....	....	Marshwood, ...	Lackawanna, ...	Fatally injured by fall of roof at face of chamber.
30	Alfred McColough, ..	American,..	Foreman, ...	51	M.	1	....	Mt. Jessup, ...	Lackawanna, ...	Instantly killed by machinery in washery. Outside.
June 13	Emery Mickas, ...	American,..	Footman, ...	39	M.	1	3	Murray, ...	Sullivan,.....	Fatally injured by cars on gangway.
July 14	Wasko Wingreen, ...	Russian, ...	Loader, ...	38	M.	1	4	Northwest, ...	Lackawanna, ...	Fatally injured by cars under breaker. Outside.
29	John Bernick, ...	Austrian, ..	Miner, ...	45	M.	1	....	Forest City, ...	Susquehanna, ..	Fatally injured by pick handle striking him in abdomen at face of chamber.
Aug. 2	Michael Sorua, ...	Slavonian,..	Miner, ...	33	M.	1	2	Marshwood, ...	Lackawanna, ...	Fatally injured by cars near breaker. Outside.
11	Joseph Baloge, ...	Slavonian,..	Laborer, ...	20	S.	....	....	Marshwood, ...	Lackawanna, ...	Fatally injured by falling under cars near breaker. Outside.
20	Joseph Reskofskie, ...	Polish,.....	Laborer, ...	21	S.	....	....	Northwest, ...	Lackawanna, ...	Killed by fall of roof at face of chamber.
Sept. 13	Frank Sezmenskie, ..	Slavonian,..	Miner, ...	35	M.	1	5	Mt. Jessup, ...	Lackawanna, ...	Killed by premature blast in heading.
27	William Marcinko, ...	Polish,.....	Laborer, ...	18	S.	....	....	Northwest, ...	Lackawanna, ...	Killed by cars. Outside.
Oct. 19	George Hudock, ...	Austrian, ..	Driver, ...	32	M.	1	3	Dolph, ...	Lackawanna, ...	Killed by fall of roof on slope.
20	Richard Mitchell, ...	English, ...	Miner, ...	46	M.	1	6	Ontario, ...	Lackawanna, ...	Killed by explosion of blast at face of heading.
	Germino Santarello, ..	Italian,.....	Laborer, ...	22	S.	....	....			
Dec. 3	Moxie Masko, ...	Russian, ...	Laborer, ...	35	S.	....	....	Lackawanna, ...	Lackawanna, ...	Fatally injured by fall of coal near face of chamber.
	James Chel, ...	Italian,.....	Motorman, ..	21	S.	....	....	Dolph, ...	Lackawanna, ...	Fatally injured by cars on gangway.
9	Michael Staviski, ...	Russian, ...	Slatepicker,	16	S.	....	....	Murray, ...	Sullivan,.....	Instantly killed by falling into scraper line. Outside.
11	Paul Graba, ...	Polish,.....	Laborer, ...	23	S.	....	....	Mohawk, ...	Lackawanna, ...	Fatally injured by fall of roof at face of chamber.

Digitized by Google

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 15	John Gerchman, ...	Austrian, ..	Miner, ...	31	M.	Forest City, ...	Susquehanna, ..	Leg fractured by cars on gangway.
16	Barney Prodgie, ...	Polish,.....	Laborer, ...	19	S.	Northwest, ...	Lackawanna, ...	Leg fractured by fall of roof at face of chamber.
24	Peter Widzen, ...	Austrian, ..	Miner, ...	44	M.	Northwest, ...	Lackawanna, ...	Ribs fractured by fall of roof at face of chamber
Feb. 3	Felix Gordan, ...	Polish,.....	Laborer, ...	35	S.	Northwest, ...	Lackawanna, ...	Arm and leg fractured by fall of roof at face of chamber.
10	Joseph Mernillo, ...	Italian,.....	Laborer, ...	30	S.	Lackawanna, ...	Lackawanna, ...	Hand burned by explosion of dynamite in cross-cut.
	Daniel Pelkosky, ...	Polish,.....	Miner, ...	31	M.	Lackawanna, ...	Lackawanna, ...	Shoulder dislocated by fall of roof in chamber.
	Edward Owens, ...	Welsh,.....	Miner, ...	49	M.	Clinton, ...	Lackawanna, ...	Ribs fractured by being struck by hammer on gangway.
11	John Casteline, ...	Italian,.....	Miner, ...	37	S.	Mt. Jessup, ...	Lackawanna, ...	Leg injured by fall of rock at face of chamber
15	Adam Crevage, ...	Polish,.....	Miner, ...	47	M.	Connell, ...	Sullivan,.....	Leg fractured by fall of coal at face of chamber.
24	Michael Pohavits, ...	Austrian, ..	Runner, ...	29	M.	Northwest, ...	Lackawanna, ...	Leg broken by cars on gangway.
	Cornelius Tobin, ...	American, ..	Laborer, ...	25	S.	Forest City, ...	Susquehanna, ..	Part of foot taken off by cars. Outside.
March 1	David Thomas, ...	English, ...	Driver, ...	35	S.	Marshwood, ...	Lackawanna, ...	Ribs fractured by being kicked by mule on gangway.
5	Joseph Spohle, ...	Italian,.....	Driver, ...	17	S.	Mt. Jessup, ...	Lackawanna, ...	Severely injured by being kicked by mule on gangway.
8	Leroy Walton, ...	Irish, ...	Brakeman, ...	18	S.	Marshwood, ...	Lackawanna, ...	Leg fractured by cars. Outside.
9	Walter Goudoskie, ...	Lithuanian,	Laborer, ...	35	M.	Clinton, ...	Lackawanna, ...	Eye injured by being struck by piece of coal at face of chamber.
18	Paul Polesnock, ...	Polish,.....	Miner, ...	28	M.	Clinton, ...	Lackawanna, ...	Legs broken by fall of roof at face of chamber.
April 3	Philip Rosse, ...	Italian,.....	Miner, ...	30	S.	Mt. Jessup, ...	Lackawanna, ..	Seriously injured by explosion of blast at face.
	Alex Cocadrilla, ...	Italian,.....	Laborer, ...	19	S.			
9	Joseph Bucher, ...	Austrian, ..	Laborer, ...	39	M.	Clinton, ...	Lackawanna, ...	Back injured by fall of roof at face of chamber.
	Leonard Payne, ...	American, ..	Driver, ...	17	S.	Clinton, ...	Lackawanna, ...	Kicked by mule in abdomen while on gangway.
10	Anthony Markal, ...	Austrian, ..	Miner, ...	25	M.	Clinton, ...	Lackawanna, ...	Finger lacerated by being struck by timber in chamber.

Digitized by Google

April	24	Daniel Jadick, ...	Russian, ...	Runner, ...	22	S.	Lackawanna, ...	Lackawanna, ...	Ankle fractured by cars on gangway.
	30	Stanley Bernosky, ...	Polish,.....	Laborer, ...	23	S.	Lackawanna, ...	Lackawanna, ...	Internally injured by fall of roof at face of chamber.
May	9	James Brady, ...	Irish, ...	Miner, ...	33	M.	Forest City, ...	Susquehanna, ..	Face lacerated by explosion of blast at face of chamber.
		Jake Comple, ...	Austrian, ..	Miner, ...	23	S.	Forest City, ...	Susquehanna, ..	Slightly burned by explosion of powder at face of chamber.
		Frank Mihave, ...	Austrian, ..	Miner, ...	36	M.	Forest City, ...	Susquehanna, ..	Leg fractured by fall of coal at face of chamber.
	22	Stanley Marcavage, ..	Russian, ...	Laborer, ...	33	M.	Northwest, ...	Lackawanna, ...	Head bruised by being struck by prop in chamber.
	23	William Burns, ...	Irish, ...	Miner, ...	46	M.	Forest City, ...	Susquehanna, ..	Thigh fractured by fall of roof at face of chamber.
	25	Joseph Connelly, ...	American,..	Bratticeman, ...	23	S.	Clinton, ...	Lackawanna, ...	Wrist bruised by sledge hammer on gangway.
	27	John Zewarcheck, ...	Russian, ...	Miner, ...	36	M.	Ontario, ...	Lackawanna, ...	Leg fractured by fall of coal at face of chamber.
	29	Charles Hortan, ...	American,..	Miner, ...	26	M.	Ontario, ...	Lackawanna, ...	Back broken by fall of roof at face of chamber.
June	1	Ignats Lesporich, ...	Lithuanian,	Laborer, ...	33	M.	Forest City, ...	Susquehanna, ..	Arm broken by fall of rock in chamber.
	9	Sylvester O'Neal, ...	American,..	Miner, ...	36	M.	Clinton, ...	Lackawanna, ...	Back injured by fall of coal in chamber.
	10	John Walsorich, ...	Slavonian,..	Runner, ...	21	S.	Marshwood, ...	Lackawanna, ...	Leg fractured by cars on gangway.
	13	John Obotnick, ...	Slavonian,..	Brakeman, ...	20	S.	Lackawanna, ...	Lackawanna, ...	Thigh fractured by cars on gangway.
	14	Stanley Rozas, ...	Polish,.....	Miner, ...	55	M.	Bolands, ...	Lackawanna, ...	Leg fractured by fall of roof at face of chamber.
	19	Peter Klinebauer, ...	American,..	Engineer, ...	28	M.	Clinton, ...	Lackawanna, ...	Bruised by falling down steps from inside engine house.
	23	Andrew Calosh, ...	American,..	Driver, ...	17	S.	Clinton, ...	Lackawanna, ...	Leg fractured by explosion of blast in heading.
	24	Joseph Shiminas, ...	Polish,.....	Laborer, ...	32	M.	Forest City, ...	Susquehanna, ..	Wrist fractured by fall of roof at pillar work.
July	7	Anthony Shombuskie,..	Polish,.....	Runner, ...	28	S.	Ontario, ...	Lackawanna, ...	Leg fractured by cars on gangway.
	8	Charles Kutspeck, ...	Slavonian,..	Miner, ...	50	M.	Clinton, ...	Lackawanna, ...	Slightly injured by fall of roof at face of chamber.
	17	Vincent Peron, ...	Italian, ...	Miner, ...	25	S.	Marshwood, ...	Lackawanna, ...	Leg fractured by fall of roof in chamber.
	18	Eynoc Speck, ...	Austrian, ..	Miner, ...	34	M.	Clinton, ...	Lackawanna, ...	Shoulder blade fractured by fall of roof at face of chamber.
	25	John Kane, ...	Irish, ...	Headman, ...	26	S.	Dolph, ...	Lackawanna, ...	Leg fractured by cars. Outside.
Aug.	5	Jacob Omelid, ...	Polish,.....	Miner, ...	28	M.	Lackawanna, ...	Lackawanna, ...	Slightly injured by fall of roof at face of chamber.
	12	Bennie Mattes, ...	Lithuanian,	Miner, ...	23	S.	Forest City, ...	Susquehanna, ..	Leg fractured by falling off ladder in chamber.
		Harry Romick, ...	American,..	Switchman, ...	18	S.	Northwest, ...	Lackawanna, ...	Leg fractured by cars. Outside.
	16	Charles Wood, ...	American,..	Runner, ...	18	S.	Clinton, ...	Lackawanna, ...	Internally injured by cars at foot of slope.
	30	Anthony Gertsman, ..	Austrian, ..	Miner, ...	33	M.	Forest City, ...	Susquehanna, ..	Leg fractured by fall of roof at face of chamber.
Sept.	3	Anthony Deblak, ...	Austrian, ..	Laborer, ...	28	M.	Clinton, ...	Lackawanna, ...	Leg fractured by fall of roof at face of chamber.
	18	Lew Valentene, ...	Italian, ...	Laborer, ...	18	S.	Marshwood, ...	Lackawanna, ...	Leg and arm fractured by fall of roof at face of chamber.
	22	Fred Cofski, ...	Polish,.....	Doorboy, ...	18	S.	Lackawanna, ...	Lackawanna, ...	Finger crushed by cars on gangway.
		George Francis, ...	Russian, ...	Cable boy, ...	18	S.	Lackawanna, ...	Lackawanna, ...	Finger bruised by cars on gangway.
	28	John F. Hird, ...	English, ...	Miner, ...	44	M.	Clinton, ...	Lackawanna, ...	Back severely bruised by fall of roof at face of chamber.

Digitized by Google

TABLE 5.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Oct. 6	Frank Baldiny, ...	Italian, ...	Miner, ...	25	S.	Lackawanna, ...	Lackawanna, ...	Hands and face burned by explosion of gas at face of chamber.
	Dominick Casiliny, ..	Italian, ...	Laborer, ...	24	S.	Lackawanna, ...	Lackawanna, ...	Hands and face burned by explosion of gas at face of chamber.
13	Steve Fitzpatrick, ...	American, ..	Miner, ...	47	M.	Clinton, ...	Lackawanna, ...	Eye injured by being struck by piece of flying coal in chamber.
19	Stanley Laskie, ...	Austrian, ..	Laborer, ...	26	S.	Dolph, ...	Lackawanna, ...	Leg broken by fall of roof on slope.
23	Albert Bossick, ...	Slavonian, ..	Miner, ...	33	M.	Dolph, ...	Lackawanna, ...	Leg broken by explosion of blast at face of chamber.
24	Mitchel Swinton, ...	Polish, ...	Miner, ...	20	S.	Dolph, ...	Lackawanna, ...	Leg broken by cars on gangway.
30	Steven Collon, ...	Slavonian, ..	Laborer, ...	45	M.	Forest City, ...	Susquehanna, ..	Seriously injured by being squeezed between wall and cars. Outside.
Nov. 8	Nicholas Fellnana, ...	Italian, ...	Miner, ...	24	S.	Bolands, ...	Lackawanna, ...	Leg fractured by being struck by rope on plane. Outside.
11	James Gydos, ...	Slavonian, ..	Driver, ...	19	S.	Mt. Jessup, ...	Lackawanna, ...	Seriously injured by cars. Outside.
19	Daniel Waterkolke, ..	Austrian, ..	Laborer, ...	36	M.	Mt. Jessup, ...	Lackawanna, ...	Back broken by cars on gangway.
21	Mathew Gurbas, ...	Austrian, ..	Laborer, ...	31	M.	Clinton, ...	Lackawanna, ...	Shoulder blade fractured by cars on gangway.
	Proki Felish, ...	Russian, ...	Miner, ...	19	S.	Ontario, ...	Lackawanna, ...	Finger cut off by cars on gangway.
Dec. 5	Anton Bradach, ...	Austrian, ..	Miner, ...	32	M.	Forest City, ...	Susquehanna, ..	Leg fractured by fall of roof at face of chamber.
24	Evan Roberts, ...	Welsh, ...	Runner, ...	23	S.	Mt. Jessup, ...	Lackawanna, ...	Hand bruised by cars on gangway.

Digitized by Google

CONDITION OF COLLIERIES

HILLSIDE COAL AND IRON COMPANY

Forest City Colliery.—Ventilation, drainage and condition as to safety good.

HUDSON COAL COMPANY

Clinton Colliery.—Ventilation, drainage and condition as to safety good.

SCRANTON COAL COMPANY

Ontario Colliery.—Ventilation fair; drainage and condition as to safety good.

LACKAWANNA COAL COMPANY, LIMITED

Lackawanna Colliery.—Ventilation, drainage and condition as to safety good.

CONNELL ANTHRACITE MINING COMPANY

Connell Colliery.—Ventilation, drainage and condition as to safety good.

MT. JESSUP COAL COMPANY, LIMITED

Mt. Jessup Colliery.—Ventilation, drainage and condition as to safety good.

MOOSIC MOUNTAIN COAL COMPANY

Marshwood Colliery. — Ventilation and safety conditions good; drainage fair.

NORTHWEST COAL COMPANY

Northwest Colliery.—Ventilation fair, drainage and condition as to safety good.

NORTHERN ANTHRACITE COAL COMPANY

Murray Colliery.—Ventilation, drainage and condition as to safety good.

DOLPH COAL COMPANY, LIMITED

Dolph Colliery.—Ventilation, drainage and condition as to safety good.

O'BOYLE-FOY ANTHRACITE COAL COMPANY

O'Boyle-Foy Colliery.—Ventilation fair; drainage bad; condition as to safety good.

CARBONDALE COAL MINING COMPANY

Bolands Colliery.—Ventilation, drainage and condition as to safety fair.

NOBLE-WILLIAMS COAL COMPANY

Primrose Colliery.—Ventilation and drainage good; condition as to safety fair.

Digitized by Google

Page

Table 8, Causes of fatal accidents inside the mines and production per accident, by counties, 1899-1913, ... 49
Table 9, Number of miners and miners' laborers employed in the mines, number killed and ratio of each class killed per 1,000 employed, average number of days worked by breakers, average production per day worked by breakers, 1881-1913, ... 52
Table 10, Number of employes inside and outside the mines, number of fatal accidents per 1,000 employes, number of tons of coal mined per fatal accident, 1881-1913, ... 53
Table 11, Comparison of production and fatal accidents of certain companies, 1909-1913, ... 54
Table 12, Companies that had no fatal accidents, 1909-1913, ... 57
Table 13, Average number of days worked by breakers, total production and average production per day, 1899-1913, ... 57
Table AA, Part 1, Tons of coal mined, days worked, persons employed, killed and injured, quantity of explosives used, 1899-1913, ... 58
Table AA, Part 2, Number of boilers and locomotives in use, 1913, ... 60
Table A, Classification of employes by districts, 1913, ... 61
Table B, Classification of fatal accidents by districts, number of wives made widows and number of children made orphans, 1913, ... 63
Table C, Classification of non-fatal accidents by districts, 1913, ... 65
Table D, Number of gaseous and non-gaseous mines in operation, number of foremen, assistants and fire bosses, production and percentage of production from gaseous and non-gaseous mines and washeries, by districts, 1913, ... 66
Table E, Quantity of coal produced by each company that produced 300,000 or more tons, and number of persons employed 1913, ... 67
Table F, Classification of employes killed or fatally injured, 1899-1913, ... 69
Table G, Classification of fatal accidents by decades, 1870-1913, ... 70
Table H, Nationality by birth of employes killed or fatally injured, 1892-1913, 71
Table I, Production of coal in tons of 2,000 pounds, explosives used, etc., 1892-1913, ... 72
Table J, Number of employes, by counties, 1899-1913, ... 73
Table K, Production of coal, by counties, 1899-1913, ... 74
Table L, Fatal accidents, 1870-1913, ... 75

FIRST DISTRICT, P. J. Moore, Inspector, Carbondale, Pa., ... 79
Letter of transmittal, ... 79
Summary of statistics, ... 80
Table A, Production of coal by the various operators and by counties, .. 81
Table B, Fatal and non-fatal accidents, tons of coal produced per accident, number of persons employed per accident, ... 82
Table C, Classification of fatal accidents, ... 83
Table D, Classification of non-fatal accidents, ... 83
Table E, Occupations of persons killed, ... 84
Table F, Occupations of persons injured, ... 84
Table G, Nationality of persons killed, ... 85
Table H, Nationality of persons injured, ... 85
Table I, Method of ventilation of mines, ... 86
Table 1, Operators, location of collieries, railroads, etc., ... 88
Table 2, Tons of coal mined, days worked, persons employed, number killed and injured, quantity of powder and dynamite used, etc., ... 89
Table 3, Classification of employes, days worked in breakers, ... 92
Table 4, Fatal accidents, ... 94

Digitized by Google

Page
Table 5, Non-fatal accidents, ... 96
Condition of collieries, ... 101
Improvements, ... 101
Mine foremen's examinations, ... 102

SECOND DISTRICT, L. M. Evans, Inspector, Scranton, Pa., ... 105
Letter of transmittal, ... 105
Summary of statistics, ... 106
Table A, Production of coal by the various operators and by counties, ... 107
Table B, Fatal and non-fatal accidents, tons of coal produced per accident, number of persons employed per accident, ... 108
Table C, Classification of fatal accidents, ... 109
Table D, Classification of non-fatal accidents, ... 109
Table E, Occupations of persons killed, ... 110
Table F, Occupations of persons injured, ... 110
Table G, Nationality of persons killed, ... 111
Table H, Nationality of persons injured, ... 111
Table I, Method of ventilation of mines, ... 112
Table 1, Operators, location of collieries, railroads, etc., ... 114
Table 2, Tons of coal mined, days worked, persons employed, number killed and injured, quantity of powder and dynamite used, etc., ... 115
Table 3, Classification of employes, days worked in breakers, ... 118
Table 4, Fatal accidents, ... 120
Table 5, Non-fatal accidents, ... 123
Condition of collieries, ... 126
Improvements, ... 126

THIRD DISTRICT, S. J. Phillips, Inspector, Scranton, Pa., ... 129
Letter of transmittal, ... 129
Summary of statistics, ... 130
Table A, Production of coal by the various operators and by counties, ... 131
Table B, Fatal and non-fatal accidents, tons of coal produced per accident, number of persons employed per accident, ... 132
Table C, Classification of fatal accidents, ... 133
Table D, Classification of non-fatal accidents, ... 133
Table E. Occupations of persons killed, ... 134
Table F, Occupations of persons injured, ... 134
Table G, Nationalty of persons killed, ... 135
Table H, Nationality of persons injured, ... 135
Table I, Method of ventilation of mines, ... 136
Table 1, Operators, location of collieries, railroads, etc., ... 138
Table 2, Tons of coal mined, days worked, persons employed, number killed and injured, quantity of powder and dynamite used, etc.,..... 139
Table 3, Classification of employes, days worked in breakers, ... 142
Table 4, Fatal accidents, ... 144
Table 5, Non-fatal accidents, ... 145
Condition of collieries, ... 148
Improvements, ... 149

FOURTH DISTRICT, J. T. Reese, Inspector, Scranton, Pa., ... 151
Letter of transmittal, ... 151

Digitized by Google

Page

Table I, Method of ventilation of mines, ... 258
Table 1, Operators, location of collieries, railroads, etc., ... 260
Table 2, Tons of coal mined, days worked, persons employed, number killed and injured, quantity of powder and dynamite used, etc., ... 261
Table 3, Classification of employes, days worked in breakers, ... 264
Table 4, Fatal accidents, ... 266
Table 5, Non-fatal accidents, ... 268
Condition of collieries, ... 270
Improvements, ... 270
Mine foremen's examinations, ... 272

NINTH DISTRICT, D. T. Davis, Inspector, Wilkes-Barre, Pa., ... 275
Letter of transmittal, ... 275
Summary of statistics, ... 276
Table A, Production of coal by the various operators and by counties, ... 277
Table B, Fatal and non-fatal accidents, tons of coal produced per accident, number of persons employed per accident, ... 278
Table C, Classification of fatal accidents, ... 279
Table D, Classification of non-fatal accidents, ... 279
Table E, Occupations of persons killed, ... 280
Table F, Occupations of persons injured, ... 280
Table G, Nationality of persons killed, ... 281
Table H, Nationality of persons injured, ... 281
Table I, Method of ventilation of mines, ... 282
Table 1, Operators, location of collieries, railroads, etc., ... 286
Table 2, Tons of coal mined, days worked, persons employed, number killed and injured, quantity of powder and dynamite used, etc., ... 287
Table 3, Classification of employes, days worked in breakers, ... 291
Table 4, Fatal accidents, ... 293
Table 5, Non-fatal accidents, ... 295
Fire at Woodward Colliery, ... 297
Condition of collieries, ... 297
Improvements, ... 298
Mine foremen's examinations, ... 300

TENTH DISTRICT, Joseph J. Walsh, Inspector, Nanticoke, Pa., ... 301
Letter of transmittal, ... 301
Summary of statistics, ... 302
Table A, Production of coal by the various operators and by counties, ... 303
Table B, Fatal and non-fatal accidents, tons of coal produced per accident, number of persons employed per accident, ... 304
Table C, Classification of fatal accidents, ... 305
Table D, Classification of non-fatal accidents, ... 305
Table E, Occupations of persons killed, ... 306
Table F, Occupations of persons injured, ... 306
Table G, Nationality of persons killed, ... 307
Table H, Nationality of persons injured, ... 307
Table I, Method of ventilation of mines, ... 308
Table 1, Operators, location of collieries, railroads, etc., ... 311
Table 2, Tons of coal mined, days worked, persons employed, number killed and injured, quantity of powder and dynamite used, etc., ... 312

Digitized by Google

Page

Table 3, Classification of employes, days worked in breakers, ... 315
Table 4, Fatal accidents, ... 317
Table 5, Non-fatal accidents, ... 319
Condition of collieries, ... 322
Improvements, ... 322
Mine foremen's examinations, ... 324

ELEVENTH DISTRICT, David J. Roderick, Inspector, Hazleton, Pa., 325
Letter of transmittal, ... 325
Summary of statistics, ... 326
Table A, Production of coal by the various operators and by counties, ... 327
Table B, Fatal and non-fatal accidents, tons of coal produced per accident, number of persons employed per accident, ... 328
Table C, Classification of fatal accidents, ... 329
Table D, Classification of non-fatal accidents, ... 329
Table E, Occupations of persons killed, ... 330
Table F, Occupations of persons injured, ... 330
Table G, Nationality of persons killed, ... 331
Table H, Nationality of persons injured, ... 331
Table I, Method of ventilation of mines, ... 332
Table 1, Operators, location of collieries, railroads, etc., ... 336
Table 2, Tons of coal mined, days worked, persons employed, number killed and injured, quantity of powder and dynamite used, etc., ... 338
Table 3, Classification of employes, days worked in breakers, ... 341
Table 4, Fatal accidents, ... 343
Table 5, Non-fatal accidents, ... 344
Condition of collieries, ... 347
Improvements, ... 348
Mine foremen's examinations, ... 354

TWELFTH DISTRICT, P. C. Fenton, Inspector, Mahanoy City, Pa., ... 355
Letter of transmittal, ... 355
Summary of statistics, ... 356
Table A, Production of coal by the various operators and by counties, ... 357
Table B, Fatal and non-fatal accidents, tons of coal produced per accident, number of persons employed per accident, ... 358
Table C, Classification of fatal accidents, ... 359
Table D, Classification of non-fatal accidents, ... 359
Table E, Occupations of persons killed, ... 360
Table F, Occupations of persons injured, ... 360
Table G, Nationality of persons killed, ... 361
Table H, Nationality of persons injured, ... 361
Table I, Method of ventilation of mines, ... 362
Table 1, Operators, location of collieries, railroads, etc., ... 364
Table 2, Tons of coal mined, days worked, persons employed, number killed and injured, quantity of powder and dynamite used, etc., ... 365
Table 3, Classification of employes, days worked in breakers, ... 367
Table 4, Fatal accidents, ... 369
Table 5, Non-fatal accidents, ... 371
Condition of collieries, ... 372
Improvements, ... 372
Mine foremen's examinations, ... 373

Digitized by Google

Page

Table E, Occupations of persons killed, ... 470
Table F, Occupations of persons injured, ... 470
Table G, Nationality of persons killed, ... 471
Table H, Nationality of persons injured, ... 471
Table I, Method of ventilation of mines, ... 472
Table 1, Operators, location of collieries, railroads, etc., ... 474
Table 2, Tons of coal mined, days worked, persons employed, number killed and injured, quantity of powder and dynamite used, etc., ... 475
Table 3, Classification of employes, days worked in breakers, ... 478
Table 4, Fatal accidents, ... 480
Table 5, Non-fatal accidents, ... 482
Condition of collieries, ... 484
Improvements, ... 484

EIGHTEENTH DISTRICT, John Curran, Inspector, Pottsville, Pa., ... 487
Letter of transmittal, ... 487
Summary of statistics, ... 488
Table A, Production of coal by the various operators and by counties, ... 490
Table B, Fatal and non-fatal accidents, tons of coal produced per accident, number of persons employed per accident, ... 490
Table C, Classification of fatal accidents, ... 491
Table D, Classification of non-fatal accidents, ... 491
Table E, Occupations of persons killed, ... 492
Table F, Occupations of persons injured, ... 492
Table G, Nationality of persons killed, ... 493
Table H, Nationality of persons injured, ... 493
Table I, Method of ventilation of mines, ... 494
Table 1, Operators, location of collieries, railroads, etc., ... 497
Table 2, Tons of coal mined, days worked, persons employed, number killed and injured, quantity of powder and dynamite used, etc., ... 499
Table 3, Classification of employes, days worked in breakers, ... 502
Table 4, Fatal accidents, ... 504
Table 5, Non-fatal accidents, ... 506
Condition of collieries, ... 510
Improvements, ... 511
Mine foremen's examinations, ... 515

NINETEENTH DISTRICT, Michael J. Brennan, Inspector, Pottsville, Pa., 517
Letter of transmittal, ... 517
Summary of statistics, ... 518
Table A, Production of coal by the various operators and by counties, ... 519
Table B, Fatal and non-fatal accidents, tons of coal produced per accident, number of persons employed per accident, ... 520
Table C, Classification of fatal accidents, ... 521
Table D, Classification of non-fatal accidents, ... 521
Table E, Occupations of persons killed, ... 522
Table F, Occupations of persons injured, ... 522
Table G, Nationality of persons killed, ... 523
Table H, Nationality of persons injured, ... 523
Table I, Method of ventilation of mines, ... 524
Table 1, Operators, location of collieries, railroads, etc., ... 525

Digitized by Google

Page

Table 2, Tons of coal mined, days worked, persons employed, number killed and injured, quantity of powder and dynamite used, etc., ... 530
Table 3, Classification of employes, days worked in breakers, ... 533
Table 4, Fatal accidents, ... 535
Table 5, Non-fatal accidents, ... 536
Condition of collieries, ... 538
Improvements, ... 539
Mine foremen's examinations, ... 542

TWENTIETH DISTRICT, Charles J. Price, Inspector, Lykens, Pa.,..... 545
Letter of transmittal, ... 545
Summary of statistics, ... 546
Table A, Production of coal by the various operators and by counties, ... 547
Table B, Fatal and non-fatal accidents, tons of coal produced per accident, number of persons employed per accident, ... 548
Table C, Classification of fatal accidents, ... 549
Table D, Classification of non-fatal accidents, ... 549
Table E, Occupations of persons killed, ... 550
Table F, Occupations of persons injured, ... 550
Table G, Nationality of persons killed, ... 551
Table H, Nationality of persons injured, ... 551
Table I, Method of ventilation of mines, ... 552
Table 1, Operators, location of collieries, railroads, etc., ... 554
Table 2, Tons of coal mined, days worked, persons employed, number killed and injured, quantity of powder and dynamite used, etc., ... 555
Table 3, Classification of employes, days worked in breakers, ... 558
Table 4, Fatal accidents, ... 560
Table 5, Non-fatal accidents, ... 562
Explosion at East Brookside Colliery, ... 564
Condition of collieries, ... 565
Improvements, ... 565
Mine foremen's examinations, ... 568

TWENTY-FIRST DISTRICT, Benjamin Maxey, Inspector, Forest City, Pa., 569
Letter of transmittal, ... 569
Summary of statistics, ... 570
Table A, Production of coal by the various operators and by counties, ... 571
Table B, Fatal and non-fatal accidents, tons of coal produced per accident, number of persons employed per accident, ... 572
Table C, Classification of fatal accidents, ... 573
Table D, Classification of non-fatal accidents, ... 573
Table E, Occupations of persons killed, ... 574
Table F, Occupations of persons injured, ... 574
Table G, Nationality of persons killed, ... 575
Table H, Nationality of persons injured, ... 575
Table I, Method of ventilation of mines, ... 576
Table 1, Operators, location of collieries, railroads, etc., ... 579
Table 2, Tons of coal mined, days worked, persons employed, number killed and injured, quantity of powder and dynamite used, etc., ... 581
Table 3, Classification of employes, days worked in breakers, ... 585
Table 4, Fatal accidents, ... 587
Table 5, Non-fatal accidents, ... 588
Condition of collieries, ... 591
Improvements, ... 592

Digitized by Google

Page

Port Carbon Coal Co., ... 489
Premier Coal Co., ... 153
Price-Pancoast Coal Co., ... 131

Raub Coal Co., ... 253
Red Ash Coal Co., ... 225
Reese and Son, Thomas R., ... 327
Rissinger Brothers and Co., Incorporated, ...225, 253

Sacandaga Coal Co., ... 571
Saint Clair Coal Co., ... 519
Schuylkill Lehigh Coal Co., ... 489
Scranton Coal Co., ...81,107,131,153,571
Shipman Koal Co., ... 443
Smith and Co., H. H., ... 377
South Side Coal Co., ... 153
Spencer Coal Co., ... 131
Stackhouse Coal Co., E. S., ... 303
Sterrick Creek Coal Co., ... 81
Summit Branch Mining Co., ... 547
Susquehanna Coal Co., ...303, 377

Thomas Colliery Co., ... 377
Thorne-Neal Washery Co., ... 153
Traders' Coal Co., ... 199
Trevorton Colliery Co., ... 443

Upper Lehigh Coal Co., ... 327

Van Wickle Estate, A. S., ... 467

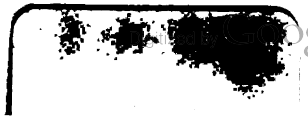
Wachna-Taylor Anthracite Coal Co., ... 571
Wentz and Co., J. S., ... 327
West End Coal Co., ... 303
West Mountain Coal Co., ... 81
West Nanticoke Coal Co., ... 277
White and Co., ... 519
Wilkes-Barre Anthracite Coal Co., ... 225
Wilkes-Barre Colliery Co., ... 199
Wolf Coal Co., ... 327
Wolf Creek Coal Co., ... 519

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

AUG 13 1940